REPORT RESUMES

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SOURCES OF INTERPERSONAL ANXIETY IN THE PHYSICALLY HANDICAPPED.

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THE MAIN PURPOSE OF THE 2-YEAR STUDY WAS TO MEASURE THE SOURCES OF INTERPERSONAL CONCERN AMONG THE PHYSICALLY HANDICAPPED. BASED ON SCHULZ'S THREE-DIMENSIONAL MODEL OF INTERPERSONAL INTERACTION, "THE SCHEDULE OF INTERPERSONAL CONCERNS" WAS DEVELOPED. THIS INSTRUMENT CONTAINS 59 ITEMS DIVIDED INTO FIVE FACTORS--REJECTION, RESPONSIBILITY, PERSONAL INTRUSION, SOCIAL ENMESHMENT, AND INDEPENDENCE. THREE GROUPS OF THE PHYSICALLY HANDICAPPED WERE CHOSEN FOR APPLICATION OF THE INSTRUMENT. THE TWO GROUPS WITH SENSORY HANDICAPS (56 DEAF AND 42 BLIND) WERE PREDICTED TO SHOW CONCERN OVER REJECTION. THE GROUP OF 38 CARDIOVASCULAR HANDICAPPED WAS EXPECTED TO SHOW CONCERN OVER THE CONTROL DIMENSION OR INDEPENDENCE. CONTROL SAMPLES OF 71 "NORMAL" PEOPLE WERE MATCHED TO EACH OF THE HANDICAPPED GROUPS. DETAILED COMPARISON OF THE DATA (T-TEST) SHOWED SIGNIFICANT SUPPORT OF THE HYPOTHESES. SOME LIMITATIONS OF THE INSTRUMENT OR SAMPLING PROCEDURES WITH THE DEAF WERE NOTED. ANALYSIS WITHIN HANDICAPPED GROUPS INDICATED THAT THE PSYCHOLOGICAL MEANINGS OF A PHYSICAL HANDICAP ARE RELATED TO LIFE STAGES AND OCCUPATIONAL LEVELS. FURTHER RESEARCH IN THIS AREA IS SUGGESTED. (NS)

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SOURCES OF INTERPERSONAL ANXIETY IN THE PHYSICALLY HANDICAPPED

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December 31, 1964

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Foreword

This a general report on a study carried out over a two-year period at the Catholic University of America under a grant No. RD-1077-P from the Office of Vocational Rehabilitation. In writing the report, an attempt was made to give a comprehensive exposition of the reasoning and methodology used in conducting this study, without overburdening the reader with the more technical details of the procedure. With the advent of computer aids in data analysis, much more information is gained than can be reasonably presented in tables and appendices. Thus, in this report many results are reported and discussed without presenting the exact numerical findings. Any reader interested in the exact data on some part of the results may request it directly from the authors.

The responsibility for planning, execution and analysis of the research has been shared equally by the two investigators. In order to facilitate inquiry on specific points made in the report, however, it may be useful to note that Chapters I, II, and VI were written by J.F.K. and Chapters III, IV, and V by A.S.

The authors are indebted to those colleagues, students and associates who at one time or another have aided in the execution of this study. Specific acknowledgements are made in the report itself.

J.F.K.
A.S.

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Chapter I

INTRODUCTION

General theoretical considerations

The accumulation of research on the handicapped (e.g. Wright, 1960; Barker et al., 1953; Meyerson, 1956) indicates clearly that physical disability is a phenotypic (surface) classification, and points to the need for future research to seek the underlying psychological variables. It appears clear that the somatopsychological relation between physical disability and behavior is not a direct one, but is mediated by intervening variables. Wright (1960) has summarized most research to date as focusing on physique as "a surface characteristic", and characterizes the result as "an accumulation of helter-skelter findings." She continues: "The time has come when we can look forward to more frequent groupings of subjects according to their psychological situations (intervening variables) which the investigation believes are significant for somatopsychological understanding. The problem becomes then, one of determining the nature of the variables connecting physique and its effects." Thus, the writer demands theoretical formulations which would provide a basis for more systematic study of the basic psychological mediations between disability and behavior.

A review of recent literature (Barker, 1948; Dembo, Ladieu, and Wright, 1952; Barker, Wright, Meyerson, and Gonick, 1953; Meyerson, 1955; Dembo, Ladieu, and Wright, 1956; Wright, 1960), and also the published outcome of the Princeton Conference (Wright, 1959), and the Miami Conference (Lofquist, 1960) indicates the existence of a sizeable body of relevant concepts which have potential as organizing principles for further research. Some of these concepts are simply an elaboration of Lewinian field theory, as for example Wright's (1960) concept of "inferior status position", Barker's (1948) "underprivileged position", Lewin's (1935) concept of "overlapping psychological roles" or marginality", and also the concept of "new psychological situations".

Wright (1960), in expanding her concept of "inferior status position", stresses the fact that much of the restriction of a physical handicap has its source in socially derogatory attitudes. Self-devaluation as felt by the person with a disability is manifested variously. In Lewinian terms, the disability constitutes a barrier impeding free movement toward positively valenced regions of the individual's psychological life space. These regions, varying from person to person, include the vocational (e.g. perceived loss of competence), the social (e.g. loss of a sense of personal significance), the dyadic personal (e.g. perceived loss of affection). For example, a study of the attitudes of college students toward the handicapped (Rusk and Taylor, 1946 p. 219) reveals severe social ostracism of the sort experienced by ethnic and religious minorities. Sixty-five percent of the sample (N:50) stated that they would not marry a person who had a leg amputated, 50 percent would not date such an amputee; 72 percent would not date a deaf person, and 82 percent would not marry a deaf person. Another example is the study of Cowen, Unterberg, and Verrillo (1956) which found that negative attitudes toward blindness correlated significantly with antiminority, anti-Negro, pro-authoritarian attitudes. There are many modes of response available to the disabled individual to the perception of inferior status position. He may seek substitute gratifications when thwarted in his achievement of a desired goal, he may "identify with the aggressor" or the non-handicapped majority, he may use any of the defense mechanisms such as denial, repression, and aggression.

The Lewinian concept of "marginality" contributes understanding to the overlapping roles of the disabled person, who finds himself subject to the behavioral mores of the disabled group, and conflictingly, also under pressure to be "normal", to be just like the non-handicapped majority. Cowen (Lofquist, 1960) notes the similarity to the conflicting social roles of minority groups, such as the light-skinned Negro trying to "pass". All disabled people are thus seen as handicapped to a greater or lesser extent by the disability itself, their reactions to the disability, the attitudes of society, and their perception of these social attitudes. In the context, Wright (1960) documents the operation of the "principle of vigilence" (Bruner and Postman, 1948) among the handicapped. The dynamics are the same as in studies of prejudice; the individual who wishes to conceal his handicaps (or his color, or his ethnic origin) will be particularly alert to the disability-revealing behaviors of another, and will resent these mannerisms that reveal the disability. Barker et al. (1953 p. 189), document the fact that the hard of hearing were motivated to form separate organizations to avoid being identified with the more stigmatized sub-culture of the deaf.

A third and related basic concept that is useful in understanding adjustment to disability is that of "new psychological situations" (Meyerson, 1955). Maladjustments and emotional instability can be seen as a function of the individual's trial-and-error floundering in a new situation when the location of goals is not precise, and where he lacks experience with means to achieve these goals. Furthermore, valences are both positive and negative at the same time, in that approaching a goal in a probing, exploratory way may well be both attractive and frightening. The perceptual structure is unstable in that the location of goals may change with changes in the individual's position and approach patterns. For the disabled person particularly, new situations arise because of his stereotype value to others in various interpersonal settings.

In addition to these basic concepts extrapolated to the handicapped from Lewin's framework, Wright (1960), Dembo et al. (1952, 1956) exploit also the concept of "spread", by which the effects of disability are perceived as present beyond the confines of atypical physique into diverse areas of life, particularly the interpersonal. This type of "negative halo" governs the concept of "expectation discrepancy", which Cowen (Lofquist 1960, p. 129) has described as "a type of level of aspiration index reflecting the difference between expectations about behavior and adjustment, and actual behavior and adjustment in the disabled."

Cowen (Lofquist 1960), in his review of the application of psychological theory to the area of disability, briefly synthesizes various orientations. He indicates the potential usefulness of investigating, in relation to disability, concepts of ego functioning, types of ego control, defense mechanisms, and particularly the concept of "dependency", which he describes as being possibly central to the entire field of disability. He sees promise also in extensions of learning theory and motivation to the problems of disability and rehabilitation. He concludes his overview with the central question: "What types of presently available knowledge and fact in the fields of personality and motivation, and clinical psychology can be meaningfully applied to the study of disability and rehabilitation?" In reply to his own question he promptly focuses on "two concrete areas of research": *psychological stress* and *research in psychotherapy*, in terms of their potential usefulness to the fields of disability and rehabilitation.

"Research in psychotherapy" clearly involves the area of *interpersonal relationships*, *empathy*, *objectivity of understanding* (Dymond 1948, 1950; Bender and Harstorf, 1950, 1953; Gage, 1953a, 1953b; Bruner and Tagiuri, 1954; Cronbach, 1955; Gage and Cronbach; 1955; Tagiuri and Petrullo, 1958). It also involves the related area of *self-concept theory* (phenomenology) (Rogers 1942, 1947, 1951; Snygg and Combs 1949). Cowen (Lofquist, 1960) notes somewhat whimsically that: "Physical disability, for the affected person, can---very readily take on the quality of one great big projective technique." In this way he stresses the view that self-concepts and concepts of others are prime determinants of behavior, that acceptance of self is a prerequisite to the acceptance of others, that in general individual perception of self and others is the critical mediating factor in the somatopsychological relation.

His second major concept, that of *psychological stress*, he describes as "rife with semantic confusion". "Perhaps the nub of the issue", he states, "is the fact that a substantial variety of terms have been used to describe what, on the surface, appear to be either identical or markedly similar processes. (e.g. stress, anxiety and frustration)." Whereas the terms "stress" and frustration" have been used to refer both to an internal state and to stimulus conditions, "*anxiety*" as a term has had primary use as an internal state.

Apart from the semantic confusion involving the term "*anxiety*", there has also been no clear definition of the indicators by which the presence of anxiety may be inferred. In summarizing attempts to measure anxiety, Cowen formulates various groups: the *affective* indicators (e.g. self-report check lists, anxiety scales, ratings of patients), motor indicators (e.g. tremors, postural changes, gestural adaptations, muscle tension), *physiological* measures (e.g. heart rate, respiratory rate), *hormonal* measures (e.g. biochemical and tissue reactions). There are clearly many sophisticated measures of the manifestation of anxiety, but any one of these or any grouping will inevitably give an incomplete picture, since the mode of response to anxiety is a function of the individual's idiosyncratic style of life in which, for example, physiological expression may well be emphasized to the exclusion of affective expression. Cowan concludes his critique of measures of internal stress, as follows: "Since both the amount of stress which the organism experiences and his ability to cope with stress may be important elements differentiating psychological health and pathology---, *the potential stress or quality of disability merits consideration.*" The crucial question for Cowan is: "By what means does a stressor (event) become transformed into stress for any given individual?" It is to this question that the present research primarily addresses itself.

Purpose of the research

The review of the previous research and theorizing reveals the importance placed on the concept of "psychological stress". Manifestations of psychological stress are generally accepted as the most global sign of an individual's inability to cope with the interpersonal demands of life, and thus can be regarded as the best single index of the inadequacy which the disabled person experiences in coping with his handicap and with its social consequences.

It likewise appears clear from the summary of previous theory and investigations of personality variables, that it is the underlying variables rather than surface manifestations which merit investigation (Wright, 1960; Lofquist, 1960). Thus it was considered that this research should be directed at the sources of interpersonal stress rather than solely at the degree or manifest content of stress. Previous investigations indicate primarily that the somatopsychological relationship is mediated by intervening variables, and that physical disability is simply a surface or phenotypic classification.

Perhaps the reason why research to date has been characterized as "an accumulation of helter-skelter findings" (Wright, 1960), and the concept of "psychological stress" as "rife with semantic confusion" (Lofquist, 1960), is precisely because stress (anxiety, frustration) has been considered only in its surface content and manifestations. Non-conclusive results may well obtain because the differences in the degree of manifest stress or anxiety between the physically handicapped and the normal could easily be obscured by the fact that more copious and elaborate defenses are erected by the handicapped to counteract the inadequacies resulting from the physical handicap. Furthermore, differences in the structural aspects of interpersonal stress among the various categories of physical disability may not be apparent because the observable surface manifestations of anxiety do not appear to have any necessary relationship to the nature or the severity of the handicap (Wright, 1960, 373). While the manifestations of anxiety (be they affective, motor, physiological, hormonal, or other) may well be the same in the various groups of the handicapped, it appears logical that the psychological genesis of stress among the various groups should differ, e.g., the feeling of inadequacy in a case of acute sensory deprivation may be qualitatively different from that of the cardiac, in that the severe sensory loss necessitates a major revision of social relationship and an adjustment to the perceived reactions of others, whereas the source of anxiety in the cardiac would more likely be related to the loss of certain competencies in daily activities. Thus, the task of this study is to develop an understanding of the psychological significances and meanings of the surface characteristics of the physical handicap. It is proposed to demonstrate the fruitfulness of considering physical handicap in this genotypic sense, as it is the psychological significances of the physical handicap, and not the handicap itself, which serve as the sources of anxiety.

Theoretical model of the study

The first research task of the study is to delineate the possible psychological meanings that a physical handicap can have for an individual. This could, of course, be done by a survey and analysis of the introspective reports of the handicapped (Allport, 1942; Gottschalk, Kluckhohn, and Angell, 1945, Barker et al., 1953, p. 197). However, since the study proposes to investigate the psychological meanings of physical disability as proximal sources of anxiety, it appears more parsimonious to utilize for this purpose the vast available body or general psychodynamic theory bearing on the genesis of anxiety. Once the proximal sources of anxiety are determined by deduction from theory and by subsequent empirical analysis, the linkage to physical handicap can then be accomplished.

The concept of anxiety as basically generated in interpersonal situations is widely used in clinical and psychiatric writings (Sullivan, 1954; Fromm, 1947; Horney, 1945; May, 1950; Hoch and Zubin, 1950). Only in comparison of self to others does the individual feel insecure, inadequate, unworthy, etc. "Primary anxiety" is distinguished by most writers from "anticipatory anxiety". Fenichel, (1945), for example, states,

> "The pain of the unavoidable early traumatic states, still undifferentiated and therefore not yet identical with later definite affects, is the common root of different later affects, certainly also of anxiety. The sensations of this 'primary anxiety' can be looked upon partly as the way in which tension makes itself felt and partly as the perception of involuntary vegetative emergency discharges. ...(p. 42).
>
> "With anticipatory imagination and the resultant planning of suitable later action, the idea of danger comes into being. The judging ego declares that a situation that is not yet traumatic might become so. This judgment obviously sets up conditions that are similar to those created by the traumatic situation itself, but much less intense. This too, is experienced as anxiety. ..." (p. 43)

Anxiety is thus viewed as involving the anticipation of the deprivation of a need, or even the reinforcement of a derogatory self-perception (such as "I am crippled"). Since this anxiety finds its proximal source in human interchange, it is critical for further exploration to develop an understanding of the dimensions of interpersonal interaction.

Psychological and psychiatric literature provides a number of theories of personality and psychodynamics based on interpersonal interaction. Some of these have primarily a developmental orientation. Baldwin, Kallhorn, and Breese, (1958) for example, describe "three central syndromes" of parental behavior which they label; "democracy in the home, acceptance of child, and indulgence". Champney (1941) has devised three "basic factors" of parent-child relationships: stimulative-inactive, freedom-control, approving-deprecating. Erich Fromm, (1947) in describing his "orientation in the process of socialization", delineates three kinds of "interpersonal relatedness": "withdrawal-destructive", "symbiotic relatedness", "love relatedness". Freud's (1931) narcissistic, obsessional, and erotic types are parallel in general conceptualization to Fromm's "orientations", and also to Horney's (1945) "neurotic trends" of "moving away from people", "moving against people", and "moving toward people."

The variety of ways in which the phenomena of interpersonal interaction are defined and classified has been subsumed by Schutz (1958) in a three dimensional theory of interpersonal phenomena. He proposes the three interpersonal needs of inclusion, control, and affection as constituting a sufficient and necessary set of areas of interpersonal behavior for the explanation of the variety interpersonal phenomena. These needs are defined at both the level of feelings and behaviorally.

The interpersonal need for inclusion is defined at the feeling level as the need to establish and maintain a feeling of mutual interest with other people. This feeling includes (1) being able to take an interest in other people to a satisfactory degree and, (2) having other people interested in the self to a satisfactory degree. In relation to the self-concept, the need for inclusion is the need to feel that the self is significant and worthwhile. Schutz's definition of this need at the behavioral level is conceptually close to Wright's (1960) concepts of "inferior status position" and "spread", to Barker's (1953) "underprivileged position", and to the Lewinian (1935) concept of "marginality", in that the self-devaluation of the handicapped person, his loss of psychological comfort and mutuality of interest with others is the direct product of his experience in interpersonal interaction. The handicapping effect of disability is that the disabled person feels that he is not an object of interest to others, and he consequently acts toward others either in an under-social or an over-social fashion. Wright (1960) illustrates in simple behavioral terms this dimension of anxious interpersonal relations in the context of explaining the concepts of "spread", "expectation discrepancy", and also the "principle of vigilence." She notes: "The person may attribute to his crippling the fact that he is not invited to someone's house, when actually the host may not enjoy him as a person irrespective of his physique, or may wish to invite him on a more suitable occasion." Schutz summarizes his description of inclusion behavior as follows: "It has to do with interacting with people, with attention, acknowledgement, being known, prominence, recognition, prestige, status, fame; with identity, individuality, understanding, interest commitment, and participation. It is unlike affection in that it does not involve strong emotional attachments to individual persons. It is unlike control in that the preoccupation is with prominence, not dominance."

On the level of feelings, the interpersonal need for control is defined by Schutz as "the need to establish and maintain a feeling of mutual respect for the competence and responsibleness of others." This feeling includes (1) being able to respect others to a satisfactory degree and (2) having others respect the self to a satisfactory degree." At the level of the self-concept, the need for control is the need to feel that one is a competent, responsible person. This concept parallels very closely the "coping vs. succumbing" orientations to disabled illustrated by Wright (1960) and Dembo et al. (1952) both in the behavior of the disabled as well as the non-disabled "observer". For many disabled people, the disability takes on the quality of a block which impedes free movement towards legitimate vocational and social goals (cf. "expectation discrepancy"). The handicapped individual is eminently susceptible to loss of self-respect, autonomy, self-trust, and self-control particularly in new psychological situations (Lewin, 1935; Meyerson, 1955). Cowen (Lofquist 1960) provides a number of reasons for this: "The disabled person is, in general, likely to have a less well differentiated experiential background, ergo, less clarity with respect to the necessary sequences to achieve desired goals. Furthe more, the disabled person, because he is lacking some specific culturally required function, may be unable to structure the new situation." In such new situations, the individual may attempt to always control the behavior of others or abdicate from all responsibility for the control of any behavior of others. He may be completely submissive (cf. "dependency", Switzer, 1959; Cowen, 1960), or reject any control by others. In general control has to do with behavior involving power, coercion, authority, influence, accomplishment, high achievement and independence, as well as dependency for making decisions, resistance, and submission. The person who experiences anxious interpersonal relations on the dimension feels that he does not trust other people, that they don't trust him; at the level of self-perception he feels incompetent, stupid, and irresponsible.

The interpersonal need for affection is defined at the feeling level as the need to establish and maintain a feeling of mutual affection with others. It includes being able to love and be loved to a satisfactory degree. At the level of perceiving the self, it is the need to feel that the self is lovable. Behaviorally, expressed and received affection are always in a dyadic (two-person) relation. Positive affection is characterized by such situations as love, emotional closeness, personal confidences, intimacy. Negative affection is marked by hate, hositility, and emotional rejection. Whereas inclusion is concerned with the formation of relationships and whether or not relations exist, affection is concerned with how emotionally close or distant an existing relationship becomes. The relevance of "body image" theory in the area of affectional needs is clear. Severe facial disfigurement may necessitate a severe revision of the person's concept of his body's attractiveness. The "requirement of mourning", which Dembo et al. (1950) have discussed so extensively, encourages the tendency of some disabled persons to see themselves as unfortunate and unlovable (cf. the psychoanalytic concept of "castration anxiety"). If the disabled person is very dependent on physique for security in affectional areas, his mourning will be more intensive and prolonged, he will be less able to subordinate physique as a factor in lovability, and his behavior will tend toward either the extreme of being over-personal (excessive demand for close, personal relationships) or toward the extreme of being under-personal (avoiding all close relationships). The restrictive force of anxiety in dyadic relations may foster feelings in isolation of not liking people, of not really being liked by anybody and a general self-image of being unlovable and worthless.

In Schutz's view, the ideal state of interpersonal relations is achieved when the individual feels secure as to his significance, competence, and lovability resulting in an optimal degree of interpersonal behavior along the dimensions of inclusion, control, and affection. When the opposite is true, i.e., the individual is not secure as to his significance, competence, and lovability, he defends against these feelings of inadequacy by either over-activity in interpersonal relationships (over-inclusion, over-control, and over-affection) in an effort to counteract the feelings of inadequacy, or by too little activity (under-inclusion, under control, and under-affection) in an effort to avoid situations where his feelings of inadequacy might be confirmed. When these basic modes of defense are challenged, e.g., when the individual who habitually under-includes is faced with a situation of over-inclusion, anxiety is generated.

The model of Schutz thus provides for six sources of anxiety: three based on deprivation, 1) anticipation of being ignored, or being insignificant, 2) anticipation of not being influential or not being competent, 3) anticipation of not being loved or being not lovable; and three based on excess, 4) the anticipation of being enmeshed or being denied privacy, 5) the anticipation of having to take on too much responsibility, to be obligated, and 6) the anticipation of having more affection than can be handled, to be smothered.

This classification of the interpersonal concerns of the individual provides a suitable theoretical framework for an attempt to delineate the sources of anxiety by empirical methods. While the actual empirical determination of the sources of interpersonal anxiety may result in a somewhat different set of dimensions, the theory does provide for a systematic approach in compiling a universe of discrete and measurable interpersonal behaviors and helps to insure a comprehensive representation of theoretically meaningful aspects of interpersonal interaction.

Chapter II

DELINEATION OF THE RESEARCH PROBLEM

Selection of groups of the handicapped for study

Three groups of the handicapped were selected on the basis that each one appeared to subsume "a central syndrome" of behavior similar to Schutz's (1958) three areas of interpersonal behavior. The dimensions of interpersonal interaction in the sensory deprivation group of deaf and blind was considered, on the basis of previous research and theory, to be especially relevant to Schutz's (1958) dimension of inclusion behavior, which he defines at the feeling level as the need to establish and maintain a feeling of mutual interest with other people. Failure to achieve such mutual interests results in the increasing isolation of the individual. Brunschwig (1936), for example, surveyed references in literature (e.g. novels) to the deaf and generally found them to be described as secretive, suspicious, cruel and unfriendly. Educators of the deaf have noted that people deaf from early years often fail to acquire the same biases and feelings of taboo that characterize the normal population. Myklebust (1960) hypotheses that it is more difficult to develop strong feelings of identification when the many sounds which enhance interpersonal relationships are not heard. He considers that there is no more important factor than isolation in the emotional adjustment of the hearing impaired. He points out that when the normal individual is isolated, when he is deprived of sensory stimulation and removed from other people, he becomes disturbed and hallucinated. The deaf individual no longer has the means whereby he can monitor his own feeling and ideas. Apparently a fundamental criterion for maintaining emotional stability is being able more or less continously to compare one's thinking and feeling with others. This type of monitoring seems essential to maintain a firm hold on reality so as not to escape into autistic behavior. When deafness is present, especially when it is sustained in early life, the monitoring of one's feelings, attitudes, and ideas is more difficult. Deafness can result in isolation in various ways. Myklebust (1960) notes that intimate contact with families of deaf children discloses that it is extremely difficult to keep the hearing impaired child informed of daily occurrences and circumstances. There is therefore the assumption that deafness alters experience, that it causes an imposition on monitoring, and that it forces detachment and isolation. Furthermore, language is viewed as a significant factor in the development of personal social contacts and interaction. Hence when language is limited there might be a reciprocal restriction in ability to integrate experience; the personality might be less structured, less mature, less subtle, and more sensorimotor in character.

The most important early studies on emotional factors in relation to deafness were initiated by Pintner (1946). With Brunschwig (1937) he custom-built personality inventories for use with deaf, attempting as far as possible to keep the language simple so as to overcome the verbal limitations of his subjects. His inventories were standardized on control groups of hearing children. The general emphasis of these studies is on the similarity of general adjustment in both deaf and hearing children, although he found some differences in favor of the hearing. Deaf children from homes where there were deaf adults, such as parents, were found to be "better adjusted" than other deaf children. Springer (1958) and Springer and Roslow (1938), using the Brown Personality Inventory, studied the emotional stability of a group of deaf children, matched in intelligence and socio-economic status with a control group of hearing children. They found psychoneurotic tendencies to be much higher in the hearing impaired. Springer (1938) compared 377 deaf children with 415 hearing children, using certain rating scales, and found that the deaf had more problem tendencies. Myklebust and Burchard (1945) reached similar conclusions, but found no differences between the congenital and acquired groups, or between those in residence at the school more than four years or less than four years. Gregory (1938), in a study of the effect of deafness on social grouping and relationships, concluded that deaf children formed less adequate social relationships as compared with the hearing. Studies of hearing-impaired adults are sparse. Pintner et al. (1937) studied deaf college students in comparison with hearing adults, and found the deaf slightly more neurotic, more introverted, less dominant than the hearing on the Bernreuter Personality Inventory (1932). Welles used the same inventory in investigating the emotional adjustment of the hard of hearing persons enrolled in various hearing societies. He reported that the hard of hearing were more introverted and had more problems of the neurotic type than a matched group of normal hearing. Heider and Heider (1941) used a questionnaire to study the social and emotional adjustment of a group of adult deaf. Each subject wrote about his early life experiences with hearing children, what he missed by being deaf, and what his social relationships were after leaving school. Analysis of the data indicated that some withdrew from contacts with hearing people, an adjustment considered by the investigators to be realistic for some deaf persons. On the otherhand, others tried to force their way socially in an attempt to educate the hearing regarding the problems resulting from deafness. These studies appear to be in agreement that deafness causes disturbance of emotional growth, instability, and maladjustment, particularly on the behavioral dimension of interpersonal significance and mutual interest. The neurotic interpersonal interactions described above appear generally to involve under-social or over-social activity.

What little systematic research has been done on the social competence and personality integration of the visually handicapped has been marred by such factors as failure to control for important variables, inadequate representation within samples, lack of information on the construction, standardization, reliability, and validity of instruments. Barker's (1953, pp. 288-290) major criticisms are that: (1) "what has been attempted has been caught in the snare of methodological difficulties"; (2) concern with discovering "the mediating variables between blindness as a physical fact and blindness as a source of behavior has been rare"; (3) "theory is even less well developed than research." His major conclusion is that lack of adequate theory, is a basic reason for "the meager yield of research to date."

Studies in general have been concerned with delineating behavioral patterns within groups of the visually handicapped, and with the clinical description of particular blind individuals. Results of such typical studies as those of Bauman (1950), Brown (1939), Cross (1945, 1947) indicate that: (1) the blind more frequently appear as "maladjusted" on such personality inventories as the Thurstone Personality Schedule (revised), the MMPI, and such custom-build measures as Bauman's "Emotional Factors Inventory", (2) severe personality disturbance is not associated with severity of visual handicap; (3) there are substantial differences among the visually handicapped who have the same degree of defective vision. Bauman (1950), for example, in his comparison of blind and normals, found the blind to be more sensitive, with greater paranoid tendencies and depressure trends, and with less social competence. The blind, he indicates, felt they should not be expected to meet the standard applied to others. Cross' (1947) findings were similar.

In general then, it is noted that previous research and theorizing on psychological aspects of the sensory handicaps of blindness and deafness, indicates that the handicapping effect is seen in the feeling of the deaf or blind person that others are not interested in him. His interpersonal behavior on the dimension of inclusion will be either under-social or over-social, socially-compliant or counter-social.

A review of the research literature on psychological aspects of cardiovascular disease indicates that the "behavior syndrome" of certain groups of cardiacs parallels closely Schutz's control dimension which has to do with behavior involving dominance, authority, influence, accomplishment, high achievement, and independence, as well as dependency for making decisions, resistance, and submission. Research in the area of hypertensive heart disease, angina pectoris, and coronary heart disease provides some evidence that major traits of the "coronary personality" (e.g. over-control, dominance, and excessive striving) are generally descriptive of the control dimension. In these cardiovascular diseases which are considered psychosomatic, particular patterns of emotional behavior appear to occur more frequently than in a random sample of the general population. Three separate studies by Friedman and Rosenman (1958), Russek (1958), and Wolf (1958) depict similar portraits of the typical coronary personality. All the reaction patterns are composed of varying amounts of the same emotional component i.e. tension and anxiety. All of these studies are retrospective in that data is derived from the frequency with which a specific reaction pattern is found among the patients with an already existing cardiovascular disorder. Friedman and Rosenman (1958) found that "men exhibiting a specific overt behavior pattern also exhibit highest serum cholesterol level, a more rapid clotting time, a greater incidence of arcus senilis and a far greater incidence of clinical coronary artery disease than men exhibiting converse behavioral traits or a simple anxiety state." In the studies of individuals with cardiovascular disease one pattern was frequently encountered which featured difficulty in verbalizing or otherwise expressing agressive or hostile impulses or engaging in any sort of hostile exchange with others either by word or deed. The repression of such feelings appears to have culminated in hypertension and its sequelae. The studies mentioned generally agree on the characteristics of the "typical coronary patient". He is an individual whose excessive striving is often reinforced by key figures in his life such as parents, wife, or boss. Thaler et al. (1957), using the Rorschach, report that their subjects "had traits reminiscent of paranoid character disorders. They appear to feel that other people were dangerous, derisive, untrustworthy, and threatening." They desired to avoid close interpersonal relationships and projected their hostility on others, being in turn provoked by the response. Dunbar (1943), in a psychiatric study of 22 patients, described a typical personality profile, and Arlow (1954) also found a clear cut constellation of personality traits in patients with coronary occlusions. Both found evidence for compulsive competitive striving and concluded that the character structure of the patient predisposes him to coronary occlusion. Dunbar (1943, 1954) referred to the "coronary personality" as consisting of "compulsive striving, hard work, self-discipline, and great need to get to the top." Both researchers emphasized the psychodynamic importance of the patient's childhood conflicts with authority. Weiss et al. (1957) studied 43 patients with coronary occlusion from an emotional standpoint compared with a control group matched for age, sex and race. Their data suggests among multiple factors having to do with coronary occlusion, gradually mounting stress of emotional origin may be significant. Reaction to illness they found was determined by the personality structure of the patient. Most significant among these reactions is the one of denial in which the patient behaves as though he was not seriously ill. Regression was noted also, leading to preoccupation with illness and psychological invalidalism. Mental depression was the third reaction noted, sometimes involving the threat of suicide. Moses et al. (1956) report on the basis of their research that hypertensive individuals tend to mobilize an excessive and continuous quantity of anxiety and rage in response to frustration of basic dependency and security status needs. These affects are poorly suppressed, only partly repressed, minimumly bound in specific psychic symptoms, and inadequately discharged through verbalization or motor activity. They report further that rage and resentment are the predominant psychic concomitants of excessive blood pressure. Anxiety with minimal overt expression was found to be the predominant psychic concomitant of minor blood elevation. Shworles (1959) used material representing an extended study of patients suffering acute myocardial infarctions, and concluded that there were three basic reactions to acute physical trauma. These reactions are denial, reactive depression, and what he calls "inner work", which can be best described as psychological reorganization. Hellerstein and Goldston (1954) report that in 46% of the patients studied at the Cleveland Work Classification Clinic, emotional factors were next in importance to the heart disease per se, and that much of the emotional difficulty was based on fear, anxiety and tension states which developed in previously susceptible individuals.

In light of research and theory on the psychosomatic cardiovascular diseases, a behavioral syndrome emerges which suggests the concern of the cardiac patient with control of self and others. His interpersonal behavior will be characterized as either over-controlling or under-controlling, as markedly dominant or over-submissive.

The interpersonal need for affection was considered to represent a behavioral (dyadic) dimension appropriate to the behavior of those who had suffered severe facial disfigurement. Because of the relevance of "body image" theory to the area of close, dyadic relations, it was thought that such a severe and negative revision of the concept of one's external attractiveness would be especially productive of stress in the affectional area. This hypothetical relationship, however, could not be investigated for two reasons. Firstly, the dimension of affection could not be adequately isolated by factor analysis, (cf. infra 20) and secondly, the difficulty of obtaining an adequate representation of subjects was prohibitive in view of the limited time and resources of the investigation (cf. infra 23).

Hypotheses and questions of the study

In light of what has been reviewed in the area of research on the selected groups of the physically handicapped and the behavioral linkage of these groups to the framework of interpersonal needs, it is considered fruitful to formulate certain questions and predictions exploratory of the relationships between these physical handicaps and their psychological significance as sources of interpersonal concern.

(1) Does a relationship exist between the nature of the physical handicap and the psychological meanings of the disability as sources of interpersonal concern?

It is predicted that the sensory deprivation group will be more concerned with the interpersonal need for inclusion than both "normal" controls and cardiacs, and that the cardiac group will be more concerned with the interpersonal need for control than both non-handicapped controls and the sensory-deprived.

The predictions are made on the assumption that the disabilities selected to fit the theoretical model would increase the likelihood of more intense occurrence of certain classes of interpersonal concern, in that the handicapped individual is more likely than the non-handicapped control to find himself in new and threatening psychological situations for which he has had none or little preparation in his own experiential background. New psychological situations thus involve differential threat at various levels of intensity to the sense of significance, competence, of lovability, depending on the hierarchical position of these needs in the individual. The assumption is never made in this study that threatening interpersonal situations and the anxious responses to these situations are in any way unique to the disabled person; the major assumption is rather that such a person is more likely to experience these concerns more often and with greater intensity at various times in the life cycle than the non-disabled.

(2) Do the psychological meanings of a particular physical handicap as sources of interpersonal concern vary in accordance with the individual's feelings of inadequacy which pre-exist the onset of the disability?

It seems reasonable to assume that any disability, in addition or parallel to constituting a special source of stress (as suggested in the first question), would also have individualized effects relating to the person's particular strengths and weaknesses prior to the disability. For example, an individual who has some doubts about his adequacy in the area of social interaction upon incurring a disability is likely to feel its effects in that area more strongly than in another, such as competence, in which he may have been adequately adjusted. For another individual the same kind of disability may serve to accentuate his inadequacies in the area of competence while not affecting so much his feelings of social adequacy. While such a hypothesis at first may seem at variance with the hypothesis of specificity of impact of various kinds of disabilities, it is indeed likely that both are true: psychological effects of a disability may be the product of the nature of the disability as well as the personality of its recipient.

Obviously, the testing of this hypothesis cannot be accomplished directly, for it would involve making behavioral observations on subjects before they incur the disability. If the reasoning is valid, however, it should be true that among the handicapped there is a greater variability--"particularization" in intensity of reaction to various situations than among the non-handicapped.

(3) Are changes in the handicapped individual's psychological field with the passing from one life stage to another (e.g. from the stages of occupational exploration and establishment, to the later stages of maintenance and decline) associated with changes in the quality of the psychological meanings of his disability as sources of interpersonal concern?

This third question is considered to have significant implications for vocational rehabilitation in that the psychological stresses peculiar to different life stages and occupational levels (Super, 1957; Hahn, 1963) may well be related to the interpersonal concerns of the disability groups under study. Particularly for the sensory deprived, the barrier between accessible and inaccessible activities is likely to be less definite for not only the young involved in social and vocational exploration, but also for those involved in the responsibilities of higher level occupations where the challenge is greater to explore the social and vocational possibilities of communalities of behavior with the non-handicapped majority. The young or the professional-level individual with impaired hearing or vision is more likely to find himself in new and threatening psychological situations in which the directions are unknown. He is more likely to find himself threatened in unstructured interpersonal situations than the older and possibly more socially isolated handicapped person or the lower level worker engaged in routine, repetitive tasks. Pope (1928), Levine (1948), and McAndrew (1948) have stressed the smaller, relatively undifferentiated life spaces of the deaf. It is conceivable that lower level occupations (i.e. work involving relatively repetitions and non-challenging tasks), and also increasing age are two major variables which reduce the life space and render it more featureless and undifferentiated.

These, then, are the major research questions of the study, and providing answers to these questions dictates specific research tasks. There is, firstly, the task of determining empirically the various groupings of interpersonal concerns. Secondly, scales will be constructed to measure the various dimensions of interpersonal concern based on established empirical groupings. Finally, the scales will be applied to the blind, deaf, and cardiac groups.

Chapter III

CONSTRUCTION OF THE SCHEDULE OF INTERPERSONAL CONCERNS

Collection of the original pool of items

The raw materials for building the Schedule of Interpersonal Concerns were items written by four psychologists and 12 graduate students of psychology, who were instructed to submit statements reflecting various aspects of interaction between people in a variety of settings. The writers were provided by sample items, covering relationships of control, inclusion and affection in the settings of work, family, friends and leisure activity. The 16 writers submitted a total of 460 statements. These were first screened by the investigators to eliminate duplicate items, and also items ambiguous in meaning, trivial in content or patently inapplicable to handicapped persons (e.g. items including terms "hear", "see", etc.). By this procedure 165 items were eliminated, leaving 295. The remainder were submitted to two psychologists for determination of the uniqueness of the content of each item. For the purpose of this determination, an item was considered unique if it represented only one of the three dimensions: affection, inclusion and control. The raters were asked to allocate each item to one of the three dimensions, by indicating that the item belonged "definitely" to one dimension, "possibly" to one dimension or that it was unclassifiable. The two judges disagreed "definitely" on 53 of the 295 items; 4 more items were eliminated on the grounds that they did not genuinely reflect interpersonal behavior. The items left in the pool were thus 238 in number.

Pilot testing of the item pool

In the step above, the suitability of an item for the Schedule was only "armchaired", i.e. the item was thought suitable because it seemed to reflect a unique dimension of interpersonal behavior and because the content of the item referred to behavior which was judged to be potentially bothersome to some people. These two suppositions in relation to each item remained to be tested empirically before further analysis was done. For this purpose, the 238 items were administered as a list to 51 college volunteers who were asked to respond in relation to each item as to whether or not the behavior described therein was bothersome or not. Together with the list of items the K-scale of the MMPI and Manifest Anxiety scale were also administered to this group.

Two procedures were then carried out on the data. First, a frequency count of responses to each item was made. On this basis, 9 items were immediately eliminated from further analysis because of lack of variability in endorsement. They were items which bothered nearly everyone or practical no one, and as such were useless for construction of the Schedule.

Secondly, the list was "scored" for the six dimensions of Schutz: over-inclusion, under-inclusion, over-affection, under-affection, over-control, under-control. The key for the scoring--the assignment of each item to one of the six categories--was made on the basis of the sorting of items by the two raters employed in the previous procedure. In addition to the three dimensions, they also classified the items as representing over- or under-activity. From those items on which the two raters "definitely" agreed, 30 were chosen for each of the six categories.

Each of the items was then correlated with each of the six category scores as well as with the Manifest Anxiety and the K-scale scores. On the basis of the results, no item was retained which: a. did not correlate significantly with any one of the six category scores; b. correlated positively and significantly with more than one of the six category scores; c. correlated significantly negatively with the Manifest Anxiety scale; d. correlated more than -.50 with the K-scale of the MMPI. Ninety items survived the application of these criteria. As an added test of the uniqueness of the items as to category, those items were then submitted to five psychologists for allocation. Perfect agreement on allocation was obtained from the judges on 86 items; the remaining 4 were dropped from further analysis.

The results of this procedure also indicated that the heaviest casualties among items were those from the categories of over-inclusion and over-affection. Most of the items assigned to these two categories correlated significantly with both. Only the few items which were very clearly reflective of concern over group exclusion as against individual rejection appeared to be empirically separable. Consequently, in replenishing the pool, a special effort was made to "repair" some of the dropped items in this direction by rewriting them and stressing the group vs. individual distinction. Additional new items were also written where needed to bring up the complement of each category to 20 items. The newly revised list thus comprised 120 items (cf. Appendix I). This list constituted the first approximation of the Schedule of Interpersonal Concerns, and was used to collect data for the factor analysis.

Factor analysis: collection of data and preliminary processing

The provisionary form of the Schedule of Interpersonal Concerns, as given in Appendix I, was then administered to 197 adult males, drawn from two sources: students at Adult Education Classes at Catholic University and parents of pupils at the Campus School of the Catholic University. Most of the Schedules from the Adult Education Classes were obtained by group administration with the subjects assembled in small groups (less than 20). Some of the subjects were allowed to take the forms home and return them by mail. Because of possible differences in results because of different settings, a record was kept on the mode of administration (group or mail) for each subject. All Campus School parents received their forms through their children and returned them to the investigators by mail.

Twenty-three of the 197 were eliminated as incomplete either in responses to the items or in identifying information. Of the 174 records, 59 were obtained from Adult Education Classes by group administration, 37 from Adult Education Classes by mail, and 78 from the Campus School parents.

The responses from the subjects were then analyzed to determine what differences, if any, exist between sub-groups of subjects separated on the basis of source (Adult Education and Campus School parents) and mode of administration (group vs. mail). For the purpose of this analysis, a frequency count of responses to each item was obtained for each sub-group separately, and the proportions of "yes" to "no" responses were then compared between the groups. There was a discernible but not significant tendency to give a higher proportion of "yes" responses by those subjects from whom the records were obtained through mail as compared to those to whom the Schedule was administered in a group. No other differences were observed among these sub-groups, and consequently they were henceforth treated as a single group.

Compared to the general population, the subjects used in this part of the study were of a higher educational level. Accordingly, it was thought important to determine what relationship educational level had to the tendency to answer "yes" to the Schedule as a whole and to various clusters of items. The group was divided into college post graduate group (N=57), college graduate group (N=41) and a third group of those who either did not attend or did not complete college (N=76). The comparison of the records between the three groups showed a significant variation of responses to the cluster of items representing challenge to the person's independence and competence. The post graduate sample had the highest proportion of "yes" responses to this type of item (e.g. "Does it bother you if you are not permitted to set your own schedule and plans for work?"). In view of this significant variation, it was decided to exclude the post-graduates from the sample to be used for the main analysis. This left 117 subjects, more closely approximating the normal population in educational level (range 8th grade to college graduate, mean level 13.6; age range 19 to 66, mean age 41.4).

Since the pilot testing of the item pool was earlier done on a college sample, the data from the adult sample was also used to check the items against the criteria of suitability for inclusion in the Schedule. Seven of the 120 items were dropped on the grounds of lack of variability in endorsement (only a few subjects responded "yes" to these items) and 5 were excluded for the reason that a number of subjects (more than 10%) failed to record any response, indicating probable ambiguity of meaning of item.

The main analysis, described in the next section, thus dealt with 108 items and 117 subjects.

Factor analysis: isolation of dimensions

The list of 108 items of the provisionary Schedule of Interpersonal Concerns was divided into three equivalent sub-lists of 36 items each. For the purpose of this division, all items of the Schedule were grouped into triads, each triad composed of items judged by the investigators to be most similar to one another both in manifest content and in intended psychological meaning. Each sub-list was then compiled by randomly assigning to it one item from each of the 36 triads. For further discussion, the three sub-lists will be referred to as Red, Blue, and Yellow (cf. Appendix I for composition of each sub-list).

This division of the items of the Schedule into three groupings was done for two reasons: first, it facilitated the procedure of factor analysis; intercorrelation of 108 items would render a matrix so large as to be impractical for most computational and analysis methods; second, by factor-analyzing three parallel lists of items, a type of cross-validation of factorial structure is obtained.

Items in each of the sub-lists were intercorrelated (Pearsonian) on the sample of 117 adult subjects. Each of the three resulting matrices of intercorrelations was then separately factored by the multiple group method (Harman, 1960). In order to make the analysis more uniform from matrix to matrix, certain "rules" were adopted facilitating the decision-making at the various stages of factoring: the value of .40 was considered as the minimal loading in the table of oblique factor structures for an item to be considered part of any factor; the correlation of .65 between any two factors (phi matrix) was the maximum allowed for the solution to be still considered adequate; the criterion for the termination of factoring was set as two consecutive failing attempts at improving the solution, as manifested by failure to reduce further the absolute mean value of residuals.

For each matrix the initial groupings of items, to be tested by the multiple group method, were made on the basis of inspection of the intercorrelation matrix and the theoretical considerations of Schutz's model. Upon obtaining the results of the first factoring, these clusters of items were readjusted and the matrix refactored again. This was repeated several times until the average absolute residual value could not be further reduced. For the three matrices--Red, Blue and Yellow--the absolute mean residual values, at which the analysis was terminated, were .046, .046 and .047, respectively.

Factors sufficiently distinct and represented by at least three items with substantial loadings were seven in the Red matrix, seven in the Blue matrix and five in the Yellow matrix. A brief description of the factors follows.

One of the factors in each of the three matrices having very similar composition in content is clearly one of concern over rejection. The connotative meaning of the factor as well as the content similarity of a factor in one matrix to the parallel factor in another can perhaps be usefully illustrated by giving the "best" (most heavily loaded) item from each of the three matrices. For the Rejection factor these are (numbers refer to item identification in Appendix I):

Red matrix	(91)	--If your neighbors obviously do not include you as one of their friends
Blue "	(109)	--If no one fills you in when you join a group of friends in the middle of a conversation
Yellow "	(71)	--An acquaintance who doesn't act enthusiastic and elated upon seeing you again after a long time

A second factor common to all three matrices may be labeled as concern over Responsibility. The most heavily loaded and unique items from the three matrices are:

Red	(75)	--The thought of supervising a lot of people in important work
Blue	(15)	--When there is no one senior to you on a job to be done whom you could consult

Yellow (27)--When people ask you to something difficult

A third factor extracted in each of the three separate analyses appears to reflect concern and discomfort over dyadic personal intrusion, and was labeled as the Personal Intrusion factor. Items:

Red (14)--A person who continues to share personal confidences without you encouraging him to do so

Blue (74)--When someone says: "You are the only person I can tell this to"

Yellow (32)--A person who confides a secret to you that he says he hasn't told anybody else

A fourth factor represented in all three analyses is the one reflecting concern over activation in social interaction, and was called the factor of Social Enmeshment. Sample items:

Red (112)--People who expect you to socialize with them just because you work with them

Blue (100)--That having to be social takes up your time

Yellow (94)--If you get caught up in a lot of social activities to a greater degree than you had originally intended

A factor related to the fourth but isolated only in matrices Red and Blue seems to be one reflecting concern over more direct social pressure (people dropping in without being invited, people making it difficult to stay to one's self, etc.).

The fifth, and last factor common to all three matrices, emerges from the clustering of items which describe concern over limitations of freedom and independence, combined with external challenge to the person's competence. Tentatively, this factor was labeled External Control. Items:

Red (24)--If someone questions your ability to do something

Blue (30)--If you can't be your own boss

Yellow (102)--When some job you have started is turned over to somebody else

In the Blue matrix, the above factor is rather exclusively composed of items describing independent behavior. The items sampling the challenge to competence in the Blue analysis tend to load on the Rejection factor. With the other two matrices, however, the aspect of competence is clearly part of the External Control factor.

A factor reflecting concern over inability to become personal and close emerged in matrices Red and Blue, but was not isolated in the Yellow matrix. This factor appears to be logically distinct from the Rejection factor in that there is no direct activity on the part of others resulting in the exclusion of the individual. Items:

Red	(55)--People who are "all work and no play"
Blue	(37)--A formal gathering where it is hard to get to know new people

Upon completion of the individual factor analyses, analysis was also done on a merged list of 36 items drawn from the three sub-listes on the basis of the size and uniqueness of loadings in the individual analyses. Included in this collated list were 12 Red items, 13 Blue and 11 Yellow (cf. Appendix I).

This analysis was also done by the multiple group method. However, even before the items were intercorrelated, they were pre-clustered on the basis of the factor structures of individual analyses: items in what appeared to be a common factor of Rejection were grouped together, then items reflecting Responsibility, etc. The items in the list were then intercorrelated, and the multiple factoring method applied with the clusters designated as above.

The pre-clustering was found to be highly successful, so that the first time the collated matrix was factored the mean absolute residual was found to be .047. Six factors were clearly definable:

1. Rejection--items describing concern over being excluded, unaccepted or unnoticed in group activities.

2. Responsibility--items describing avoidance of situations in which one cannot depend on others for support or where others expect support from the individual.

3. Personal Intrusion--best characterized by items reflecting avoidance of involvement in personal confidence and close exchanges with another person.

4. Social Enmeshment--reflecting an aversion to extensive social activity and a resistance against pressures to socialize; wishing to be left alone.

5. Independence--resistance to external control, seeking freedom, with a definite connotation of claiming the right of independence by virtue of competence.

6. Personal Isolation--characterized by concern over being prevented from establishing closer human contact and more personal ties.

On the whole, there is a definite parallel between dimensions isolated in this analysis and the six modes of interpersonal behavior outlined by Schutz. Clearly differentiated is the dimension of competence or control, with underactivity represented by the Responsibility factor and the over-activity by Independence factor. "Under-control" and "over-control" would not be inappropriate labels for the scales of Responsibility and Independence.

The distinction between inclusion and affection, as outlined by Schutz, is not as sharply delineated in the results of the factor analysis. On the under-activity side, a distinction between group and dyadic interaction does emerge discernably in that the factor of Personal Intrusion is quite clearly dyadic and that of Social Enmeshment reflects one-to-many relationship. In the over-activity mode, however, the distinction between rejection by a group and by a person simply does not emerge in spite of efforts to write items clearly tapping both aspects. The distinction between Factors 1 and 6 appears to be one more of intensity than kind: Rejection factor reflects active exclusion of the individual by others, whereas the factor of Personal Isolation characterizes more the absence of opportunity to proliferate relationships. Thus, while the distinction between under-affection and under-inclusion appears empirically tenable, that of over-affection as contrasted to over-inclusion remains only a logical one.

Composition of the scales of the Schedule

Upon completion of the factor analysis, two steps remained in the task of composing the scales of the Schedule in their final form:

1. Generalization of the factor analysis findings to the complete list of 108 items of the preliminary form;

2. Augmentation of the list with new items where needed to strengthen particular scales.

For the first step, the records of the 117 adult subjects were scored for the six factors, using only items which, by the size and uniqueness of their loadings, determined the definition of the factors in the collated analysis. Each of the items in the provisionary form of the Schedule was then correlated with each of the six factor scores. Using this information, a determination was made for each item on whether or not that item belonged in any one of the six clusters. An item was considered to belong in a cluster if it correlated substantially with one and only one factor score. Such was judged to be the case if an item correlated with a factor score above .40 and if the highest correlation with any other factor score did not exceed half that value.

From the list of 108 items, 50 were found to meet these criteria (11 in the scale of Rejection, 11 in Responsibility, 9 in Personal Intrusion, 7 in Social Enmeshment, 7 in Independence, and 5 in Personal Isolation).

Using these new clusters of items, the records of the adult subjects were rescored and the six preliminary scale scores were intercorrelated to determine the degree of independence of the factors following their generalization to the complete list of items. The highest correlation was found to be between the scales of Rejection and Personal Isolation (.43).

Because of the small number of items in scales of Social Enmeshment, Independence and Personal Isolation, new items had to be written and tested. Items were solitited from several psychologists who were furnished all of the items assigned to clusters from the previous list, and who were asked to write statements, differing in surface content, but as close as possible to the central meaning of each factor. Of the items received, the investigators chose as many as needed to bring up each scale to the complement of 20 items.

The new list of items was then administered in test form to 137 freshmen college males at Catholic University. These records were scored for the six scales on the 50 items contained in the list from the previous provisional Schedule. When compared to the adult sample, the scores of the freshmen were found to be significantly higher on all the scales, indicating much more readiness on the part of the younger group to admit concern over any aspect of interpersonal relations. This underscores the importance of adjusting for response set in any comparison of two groups on individual scales. The intercorrelations between the scores, on the otherhand, were found to be very nearly parallel to those on the adult sample, with the exception of increased convergence of scales 1 (Rejection) and 6 (Personal Isolation). These two scales of the freshmen sample correlate .59 as compared to .43 on the adult sample.

Each of the 120 items was then correlated with each of the six factor scores in order to make final assignment of items to scales. Using the same criteria of size and uniqueness of correlations as in the earlier steps of the development of the scales, 59 items were retained for the final version of the Schedule. Three new items were added to the scale of Rejection, 1 in Responsibility, 4 in Personal Intrusion, 3 in Social Enmeshment and 3 in Independence (cf. Appendix II). No new items were found to correlate substantially or uniquely with the factor of Personal Isolation. Because of the small number of items in this scale and its convergence with the scale of Rejection, it was decided to eliminate it from the Schedule.

Reliability of the Schedule

The final version of the Schedule was administered to 70 college senior males, 49 of whom returned for retesting within two to four weeks. The test-retest correlations are as follows:

Rejection	.87
Responsibility	.88
Personal Intrusion	.83
Social Enmeshment	.79
Independence	.73

These coefficients of stability are comparable to those of established scales of similar nature. Test-retest correlation on the K-scale of the MMPI on the same college senior group was found to be .80.

The degree of internal consistency of each scale was determined by calculating split-half correlations on the records of 100 VA employees. The coefficients, corrected by the Spearman-Brown Prophecy Formula for full-length scales, were as follows:

Rejection	.82
Responsibility	.86
Personal Intrusion	.85
Social Enmeshment	.85
Independence	.82

Chapter IV

SUBJECTS OF THE STUDY

Introductory remarks on sampling and controls

Any study proposing a comparison between different groups of handicapped subjects immediately encounters several formidable problems of sampling and controls. When the present study was originally planned, it was proposed to administer the Schedule of Interpersonal Concerns to four groups of the handicapped: the deaf, the blind, the cardiac, and subjects with observable physical disfigurement. The matching of such four different groups on all possibly relevant control dimensions is well-nigh impossible, since the nature of the handicap is necessarily linked with variables of age of onset, amount of institutional care, attainment of educational level, etc. For example, while the overwhelming proportion of the deaf have been deaf from early years (Barker et al., 1952; Woolsey, 1950), the typical cardiovascular patient dates the beginning of his disability to the late adulthood period (Dunbar, 1954); the patient with traumatic or dermatological facial disfigurement ordinarily does not undergo specialized training in an institutional setting, while most deaf and blind do so at some period in their lives.

The availability of representative subjects of the handicapped population also varies. Because the deaf and the blind more often depend on institutional assistance and ties in making their adjustment, they are more easily obtained as subjects for research; on the other hand, the typical cardiac or the disfigured patient taps the resources of society mainly through the contact with a personal physician, with the confidentiality of the relationship severely restricting the availability of such patients as subjects. If one had the task of obtaining purely random samples from the total populations of each of the handicapped groups, one could, for this purpose, compile reasonably successfully a register of the deaf and blind populations, but not of the cardiac or the disfigured.

In view of the limited resources and time allotted to this project, and in the face of initial experiences in recruiting subjects for this study, a number of decisions were made at the start of the second year of this project bearing on the sampling and control procedures. First, it was decided to study handicapped groups within the context of the total physio-socio-cultural meaning of the handicap, and not to attempt to isolate the handicap from such immediately associated consequences as differences in educational histories, intensities of vocational career development, extent of institutional living, etc. Second, after a series of unsuccessful attempts to secure subjects to be placed in the "disfigured" cateogry, it was decided to exclude this category from study (with partial reimbursement of funds for the project to the granting agency). Third, the main analysis of data would be made in the form of the comparison of each handicapped group with a specially "tailored" control group of "normals", rather than by direct comparison of one handicapped group to another.

The following general qualifications were stipulated for the inclusion of any subject into the study groups: the subject had to be a. male, b. white, c. employed or basically employable with only temporary interruption in work, and d. having no other disability other than the primary handicap.

Description of each of the three handicapped groups follows.

The deaf sample

The deaf sample was collected through the help and courtesy of Mr. Frederick Carl Schreiber, a graduate of Gallaudet College, and a leader in the deaf community in the District of Columbia. The subjects were secured mainly from among the employees of the Government Printing Office. The Schedule of Interpersonal Concerns was administered individually, with the subject asked to read each item and to indicate his response on the form provided. Care was taken to insure that the subject fully understood the instructions and that his interpretation of the first several items conformed with the intended meaning. At any time during the administration the subject was allowed to ask questions as to the exact meaning of any one item. Prior to the testing of the deaf, the investigators discussed with Mr. Schreiber each item in detail as to the exact interpretive significance intended for the items.

A total of 70 records was obtained in this manner. Fourteen of the records were eliminated on the basis of incomplete responses, questionable comprehension of some of the items, or multiple handicaps.

The deaf sample of the study thus consisted of 56 subjects, all cases in which the sense of hearing was non-functional for the ordinary purposes of life, age ranging from 25 to 60 (mean age 38.4), all employed, occupational level(Roe, 1956) ranging from level 1 to level 5 (average level 3.6).

The blind sample

The pool of the blind subjects was collected from various sources:

1. Baltimore general area through the help and courtesy of Mrs. Dennis Ayers, of the Baltimore School for the Deaf;

2. Through the courtesy of Dr. Ross McDonald, Georgetown University, School of Linguistics;

3. From the Washington general area collected directly by one of the investigators.

The Schedule was administered orally and individually by trained investigators. The responses of the subjects to the items were either oral or written (by penciling marks on a separate card as a response to each item) depending on the preference of the subject and the needs of insuring complete privacy. Care was taken to insure that the intended significance was attached to each item as the Schedule was administered.

Of 51 subjects obtained from these sources, 42 met the criteria of immediate employability, no complicating disabilities, and the investigator's satisfaction that the subject understood the directions and the items as intended. All retained subjects were persons who had lost the sense of sight to the point that it was non-functional for the ordinary purposes of life. The subjects ranged in age from 22 to 68 (mean age 40.7), representing all six levels of occupational skills (average level 3.9). Information was also recorded for each subject on the age at which the sight became non-functional, and the kind of onset (slow or flash).

The cardiac sample

The cardiac pool was gathered from a number of different sources: through the cooperation of patients at Georgetown, George Washington, Martinsburg VA and Perry Point VA hospitals; clients at VR & E and private patients contacted through physicians and through Catholic University students and staff.* In each case, the Schedule was given to the patient individually, with the option of returning the completed Schedule in person or by mail. With the exception of several patients from the practice of a private physician, all subjects had the opportunity to ask questions on any item as to the intended meaning.

Of 43 cases obtained, 5 were eliminated on the grounds of omissions of responses to more than four items or failure to meet criteria for inclusion as a pure cardiac case. For the remaining 38 cases, it was ascertained, as far as possible, that the subjects were free of other disability. The physician's diagnosis was recorded in each case. The following were the diagnoses of subjects in the sample:

Coronary Occlusion	17
Myocardial infarction	9
Myocardial infarction with possible angina pectoris	1
Acute coronary insufficiency	2
Hypertensive heart disease (hospitalized)	1
Arteriosclerotic heart disease	7
Angina pectoris	1

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*Cooperation of the following is gratefully acknowledged:

Dr. Francis T. Coleman, attending physician at Catholic University;
Dr. Mary Reidy and Dr. Edwin Westura of Georgetown University Hospital;
Dr. William Rowan of Perry Point VA Hospital;
Dr. Max Apfeldorf of Martinsburg VA Hospital;
Mr. Thomas Shworles of George Washington University Hospital;
Mr. Silas Dann of the VR & E Division, VA, Washington, D. C.

The subjects ranged in age from 30 to 69 (mean age=52.14) and represented all levels of occupational skills. Twenty-one of the 38 subjects were hospitalized at the time the Schedule was administered. The remaining 17 subjects had been hospitalized between two months to 7 years prior to the administration of the Schedule.

The "normal" sample

The control samples corresponding to the three handicapped groups were constructed by securing a record of the Schedule of Interpersonal Concerns from a "normal" subject matching each handicapped subject in race, sex, employment, occupational level and age. In order to secure the required records, a pool of "normal" cases was collected from three sources:

1. From among the employees of the Veterans Administration through the courtesy of Mr. Chester W. Henry;

2. From among the maintenance employees at Catholic University;

3. By soliciting cooperation directly from individual employed males (mainly gas station attendants and cab drivers).

In each case, opportunity was given to the subject to ask questions on the meaning of any particular item. A total of 155 cases were secured from these sources. Ten of the cases were eliminated from further processing on the grounds of too many omitted responses or an indication of serious recent illness. The remainder of the subjects reported no disabilities. From among the 145 cases, 71 records were drawn to match all the cases in the handicapped groups (see section below). The 71 retained cases corresponded reasonably closely to the general male population, with the age ranging from 21 to 67 (mean age 42.0) and representing all levels of occupational skills (mean level 3.3). In addition to each one of the cases serving as a match for one or more of the handicapped subjects, the group collectively was henceforth treated as a reference "normal" group.

Matching of experimental and control groups

The matching of each of the handicapped groups with a control sample was accomplished by pairing each handicapped subject with a "normal" subject of equivalent age and occupational level drawn from the pool of 145 "normal" cases. A pair of subjects was considered to be matched if their ages did not differ by more than 3 years and their occupational level by more than 1. Some of the pairs matched perfectly; where the matching was less than perfect (within the limits established as above), attempt was made to compensate for the deviation in subsequent matching of pairs, so as to have the means of the matched samples on both age and occupational level as close to identical as possible.

In addition to the matching of the handicapped subjects to the "normal" subjects, matching was also done between the handicapped groups, i.e. deaf vs. blind, deaf vs. cardiac, blind vs. cardiac. The number of matched pair subjects necessarily was less than the number of subjects in either of the matched groups.

Table 1 gives information as to the number of pairs successfully matched and the mean level of age and occupational level of each paired group.

Table 1

Mean age and occupational level of matched samples

Samples	No. of pairs of Ss matched	First sample Mean age Mean occ. level	Second sample Mean age Mean occ. level
Blind-Normal	42	40.7 3.9	40.1 3.7
Cardiac-Normal	38	52.4 3.2	51.5 3.0
Deaf-Normal	56	38.4 3.6	39.6 3.6
Blind-Cardiac	28	47.5 3.6	47.8 3.4
Blind-Deaf	33	41.7 3.8	41.7 3.7
Cardiac-Deaf	25	46.5 3.4	45.8 3.7

In subsequent discussion of procedures and the results, it will be understood that the comparison of any group to any other group refers to matched samples, equivalent in race, sex, employability, occupational level and age.

Chapter V

DETAILED ANALYSIS OF RESULTS

Derivation of scores and indices

As a preliminary step in the analysis of the data, a number of procedures were executed on each record in order to derive several scores and indices for each subject. These were as follows:

1. Each record was scored for the five parts of the Schedule of Interpersonal Concerns. These raw scores were simple sums of the responses of the subject to all the items belonging in a particular part. Each subject thus had a score indicating the degree of his concern over Rejection, Responsibility, Personal Intrusion, Social Enmeshment and Independence.

2. In so far as the five parts of the Schedule are analogous to Schutz's modes of defense by over-inclusion, under-control, under-affection, under-inclusion, and over-control respectively, two derived indices of mode of defense were determined for each subject: Over-Activity sub-total consisting of the sum of Rejection and Independence scores, and Under-Activity sub-total consisting of Responsibility, Personal Intrusion, and Social Enmeshment scores.

3. The Total Schedule score consisting of the sum of responses to all items of the Schedule was computed, reflecting the level of response set, i.e. degree of readiness to admit concern over interpersonal interaction.

4. In order to determine for each subject the degree to which he is concerned over certain aspects of interpersonal interaction relatively more than others, it was necessary to standardize the scores of each of the five parts of the Schedule of Interpersonal Concerns so as to make them directly comparable. This was accomplished in the following manner. Means and standard deviations for the five parts of the Schedule and the two derived sub-totals were calculated for the "reference group" (the total group of "normal" controls, N=71). These parameters were considered as standards in relation to which the raw scores of each subject were recomputed to render standard scores (mean=50; standard deviation=10). This made it possible to compare directly an individual's score, for example, on Independence to his score on Rejection. If his first score is 60 and the second 55, one can immediately say that, 1. in comparison to the reference group, the individual admits more concern than the average person on both aspects, and 2. that he is relatively more concerned over the first aspect than the second. These scores were used for general profile analysis.

5. In order to eliminate the response set (overall tendency to admit or deny concern), these standard scores were then converted to deviation scores. The method of the deviation of these scores is illustrated with case A.

> Individual A has standard scores of 55, 60, 60, 60, 55 for Rejection, Responsibility, Personal Intrusion, Social Enmeshment and Independence respectively. His combined standard score total is thus 290. This total is divided by 5, providing the index of response set level--58--for this individual. This index is substracted from each standard score. to give individual A scores of -3, +2, +2, +2, -3 as

deviation scores, indicating his relative concern over the five aspects of interpersonal interaction. In order to eliminate the negative sign for convenience, a constant of 50 is added to each score, giving individual A final deviation scores of 47, 52, 52, 52, 47.

An analogous procedure was executed on the sub-totals of Over-Activity and Under-Activity to derive corresponding deviation scores.

6. Profile Scatter index was derived for each subject from the five deviation scores, indicating the extent to which his concern varied in degree from one aspect of interpersonal interaction to another. An individual with the deviation scores of 40, 60, 45, 55, 50 on the five parts of the Schedule is obviously responding to the various aspects of interpersonal stress in a more differentiated way than an individual with scores of 49, 49, 51, 51, 50, who is reporting a more equal degree of concern over the various aspects.*

Method of analysis

For each of the three handicapped groups, the data obtained was viewed in three ways:

1. Comparison was made of the group with the control "normal" sample and with the other two groups on the indices described in the previous chapter. The statistic used for each comparison was the t-test.

2. For each of the handicapped groups, intra-group analysis was made, by examining differences in the means of the scores for various sub-groups within each handicapped sample (e.g. older vs. younger subjects, hospitalized vs. clinic cardiac patients, etc.). Where the numbers of subjects in such sub-samples permitted the differences were tested for significance by the t-test.

3. As has been suggested in the literature (Barker et al., 1953) the analysis of individual items often provides meaningful leads for interpretation that do not emerge from the analysis of test scores and indices of dimensions defined on "neutral" reference groups. For this reason, comparison of each handicapped group with its control group as well as with the other two handicapped groups was made to explore the differences in responses to individual items. For this purpose, the responses of subjects (to the question "Does this bother you?") were recorded as "no" or "yes" ignoring the levels of concern (little, moderately, extremely) under the "yes" category. This was done for statistical considerations, in order to permit a convenient use of the chi-square test for evaluating the significance of the difference

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*The method of calculation of the scatter index was to take the square root of the average squared deviation score, then for convenience of computation to multiply the result by 4 and round to the nearest integer value.

in proportions of "yes" to "no" responses. In addition, comparison of proportions adjusted for response set was made, since response set level, when substantially different for two groups under compariosn, tends to obscure the more fruitful differences of relative degrees of response to the various items. The adjustment for response level was accomplished as follows: Using the "normal" reference group, each item was correlated with the Total Schedule score. These correlations indicated for each item the extent to which the item is susceptible to the general set of tending to deny or admit interpersonal concerns. The items were assigned weights on this basis (weight of 1 for items correlating with the Total up to .30, weight of 2 for .31-50, weight of 3 for .51 and above). When any two groups were compared, the difference between the response level of the two groups was calculated, and the proportions of "yes" to "no" responses to each item for the group with the lower response set were adjusted, proportionately to the weights determined, in such a way as to equate the over-all response set level of the two groups. When a significant difference between proportions so adjusted was obtained, one could conclude that this reflected a special sensitivity of the group to the behavior described in the item rather than a general tendency to more freely admit or to deny interpersonal concerns.

Because the method of analysis, as outlined above, required the computation of a large number of individual statistical tests, the statistical level of confidence adopted for the interpretation of a result as definitive was $p<.01$ rather than the more usual .05 level. Findings significant at a lower level than .01 were interpreted, where meaningful, as possible tendencies. For the purposes of further narration, the terms "tending" and "definitive" will be used to correspond to these levels of statistical confidence.

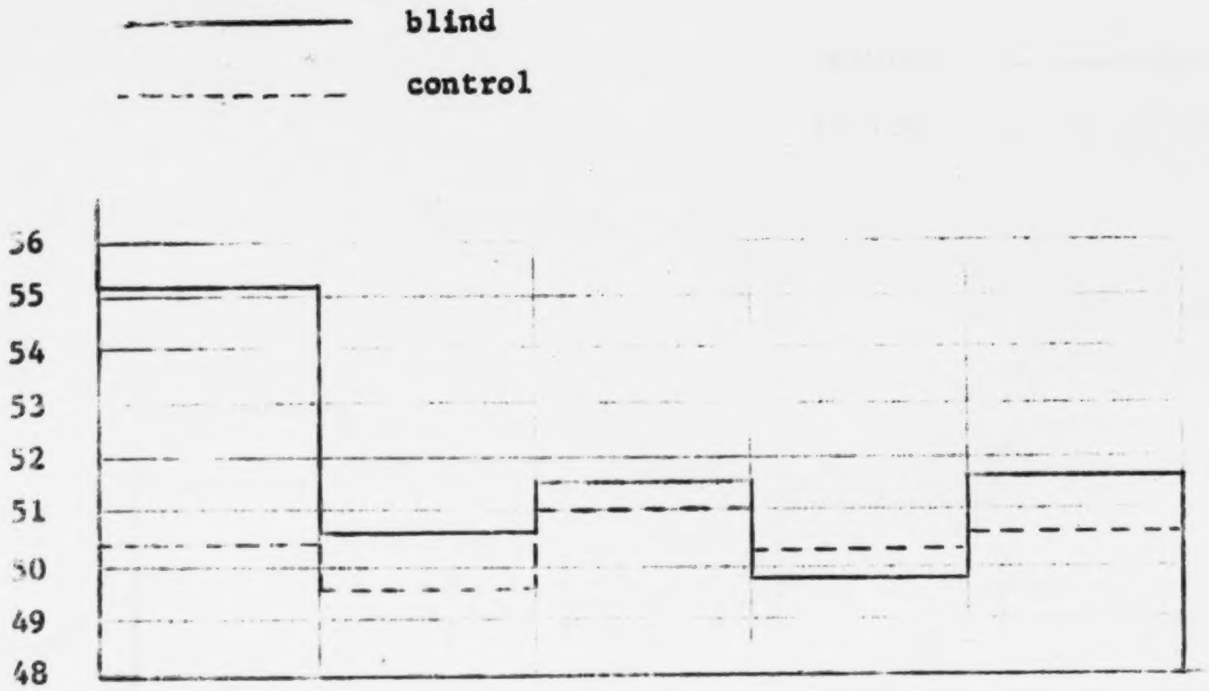
Comparison of group profiles

The most global view of the results is to compare the group profiles of each handicapped sample to the corresponding control sample. The reader is referred to Figures 1-3, representing comparisons, in standard scores, between experimental and control groups on all five parts of the Schedule of Interpersonal Concerns.

The following are the notable aspects of these comparisons:

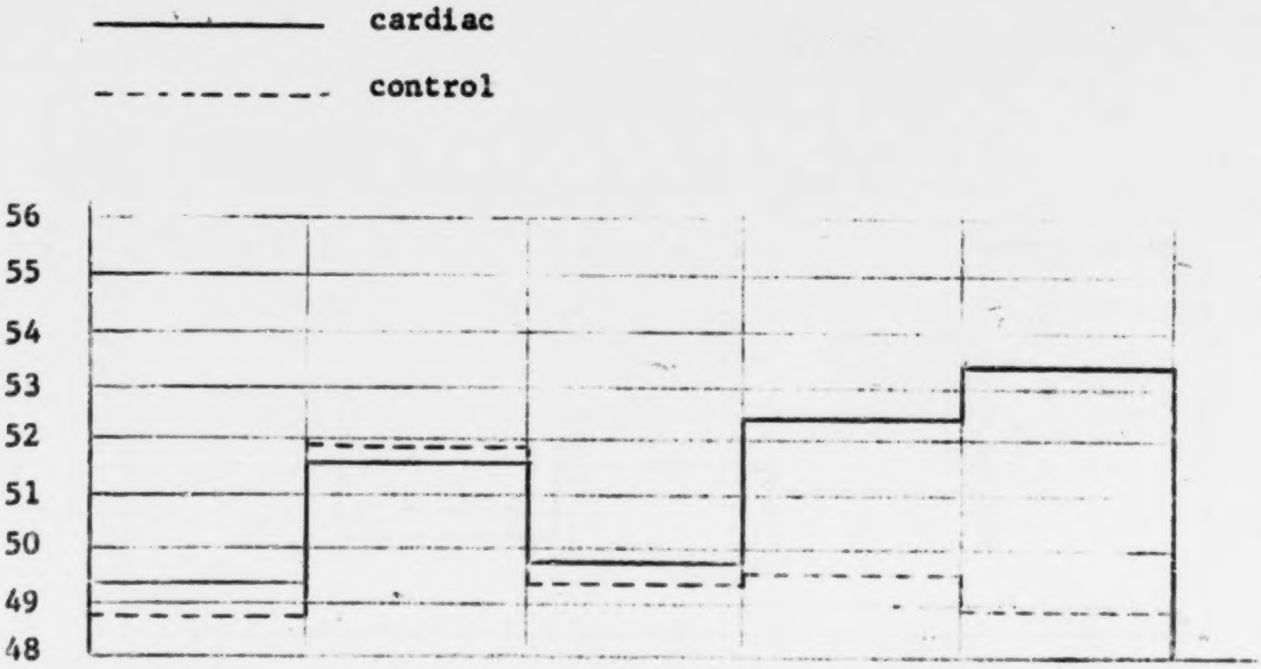
1. The highest scores of the blind group are on the Rejection scale, both by comparison to the scores on the other 4 parts of the Schedule and by difference from the control group. While this finding is far from definitive and substantial, it is statistically significant and meaningful in so far as it corresponds to the theoretical expectations of increased sensitivity by the sensorially handicapped to those aspects of interpersonal interaction which bear on his sense of significance. Since the Rejection part of the Schedule corresponds to Schutz's over-inclusion dimension, this result could be said to have been predicted in this study.

2. The highest score of the cardiac group, both relative to other scores of this group and by difference from the corresponding control group, is that on the Independence scale of the Schedule. This is also in conformity with the theoretical expectation in that the cardiac patient should be particu-



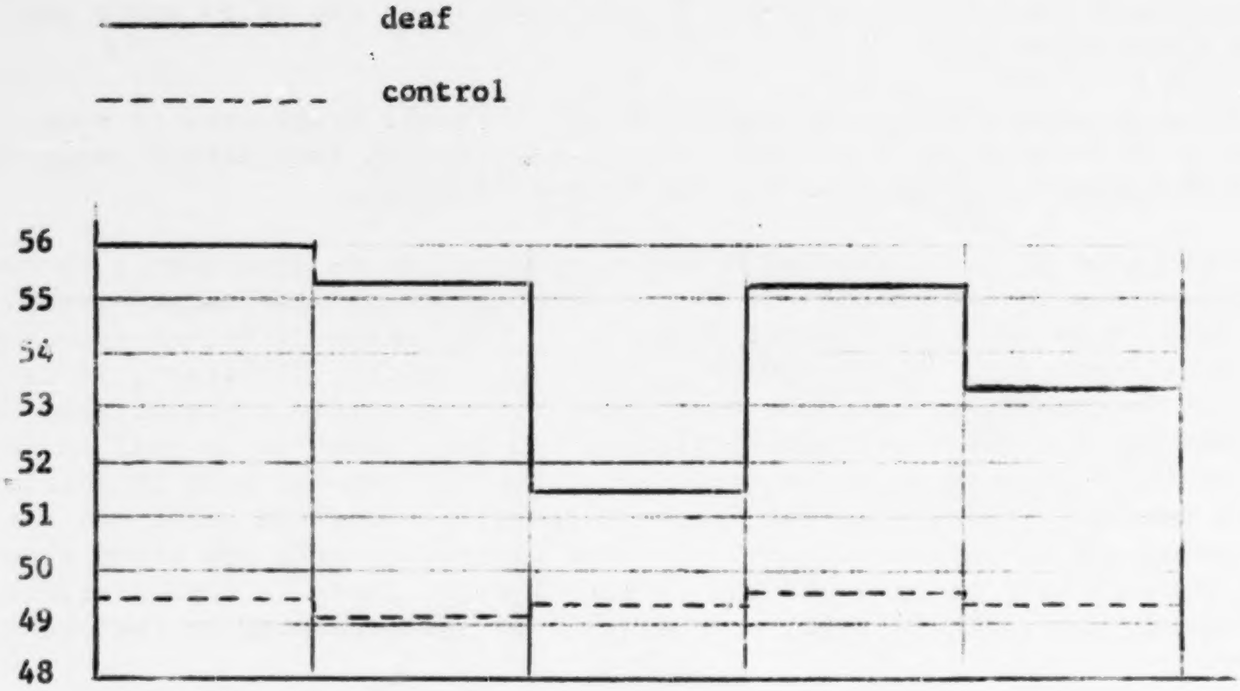
	Rejection Mean	Rejection SD	Resp Mean	Resp SD	PI Mean	PI SD	SE Mean	SE SD	Ind Mean	Ind SD
Blind	55.3	13.0	50.7	7.9	51.6	11.4	49.8	10.1	51.7	10.8
Control	50.4	11.2	49.7	9.9	51.0	10.0	50.3	10.2	50.7	10.7
t	1.81		.517		.240		-.212		.432	

Fig. 1. Profile of the blind on the Schedule of Interpersonal Concerns, with means, SD's and t-values as compared to the control sample



	Rejection		Resp		PI		SE		Ind	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Cardiac	49.4	11.6	51.7	11.4	49.8	13.6	52.4	11.8	53.4	11.3
Control	48.8	9.0	51.9	11.0	49.4	11.3	49.6	8.9	48.9	9.0
t	.217		-.080		.126		1.15		1.90	

Fig. 2. Profile of the cardiac on the Schedule of Interpersonal Concerns, with means, SD's and t-values as compared to the control sample



	Rejection		Resp		PI		SE		Ind	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Deaf	56.0	12.5	55.3	10.2	51.6	9.4	55.3	9.5	53.4	9.5
Control	49.6	10.1	49.1	9.4	49.3	9.1	49.7	9.1	49.4	9.4
t	2.96		3.33		1.29		3.15		2.23	

Fig. 3. Profile of the deaf on the Schedule of Interpersonal Concerns, with means, SD's and t-values as compared to the control sample

larly concerned with those aspects of interpersonal interaction which bring into focus his sense of competence. The result is significant and could be considered as having been predicted in-so-far as the scale of Independence is analogous to Schutz's dimension of over-control.

3. The striking aspect about the group profile of the deaf is its over-all elevation above that of the control group. While the response set level of the other two groups is not significantly different from their controls, the deaf response set is to admit more freely concern over any aspect of interpersonal interaction. Whether this is a function of the fact that the schedules to the deaf were administered by a deaf person or whether it reflects a more intrinsic tendency on the part of the deaf cannot be answered from the present data. Whichever the case, a direct comparison of the scores on each of the scales with those of the control group cannot be made meaningfully without adjusting first for the significant difference in the response set level. When this is done (by translating the standard scores into deviation scores), a significant finding emerges, but not one which had been anticipated. The significant finding is the relatively lower level of concern about personal intrusion as compared to the other aspects of interpersonal interaction (the dip in the profile on the third scale graphically illustrates this).

In general, then, it can be said that the over-all hypothesis of some specificity in the nature of concerns over interpersonal interaction among the handicapped groups is given some support by the findings.

For purposes of more detailed discussion later, it is also useful to make some observations on the results of direct comparisons of handicapped groups to one another. When one experimental group is significantly different from "normal" on some dimension, while another is not significantly different, it is inviting, but incorrect, to conclude that there is necessarily a significant difference between the two experimental groups. To this point it is well to observe here that there is indeed a very definitive difference, both in absolute level and relatively (adjusted for response level) between the blind and the cardiac groups on the degree of concern about rejection, with the blind showing most concern in this area and the cardiac least. There is also a difference, although not as definitive, on the scale of Independence, in the other direction.

Direct comparison of the deaf-cardiac groups is least fruitful, because of the smallest number of matched cases and because of the overall elevation of the deaf profile. No significant differences in the direct comparison of individual dimensions between these two groups is observed.

The comparison of the blind and the deaf groups does yield one suggested area of difference. The blind tend to be less concerned about social enmeshment than the deaf. A possible interpretation of this may be that the blind, more so than the deaf, in fact depend on the initiation of contact by others. An analogous result may be recalled from an independent study comparing college men and college girls on the Schedule of Interpersonal Concerns. The girls show much less concern about social enmeshment, perhaps because in our culture the role of the woman is to be invited and not to invite. Because of the handicap, the blind, more so than the deaf, are perhaps forced to accept this passive role in social interaction.

Differentiation of individual profiles

One of the theoretical expectations of the study was that the handicap would be found to accentuate, for a given individual, his concerns about those aspects of interpersonal interaction to which he had been especially vulnerable prior to incurring the handicap. On these grounds, it has been expected that the handicapped will show a greater degree of differentiation of interpersonal concerns than "normals".

Since all the deaf subjects and more than half of the blind have had lifelong handicaps, the hypothesis is not testable on these two groups. With the cardiacs, however, the incurrence of the handicap can be properly considered as added stress bearing on pre-existent personality vulnerabilities.

While the testing of the "scatter" hypothesis is applicable only to the cardiac group, the comparison of each of the handicapped groups with its control group is given in Table 2, for general interest.

Table 2

Means, standard deviations and t-values of the Profile Scatter Index for cardiacs, blind and deaf as compared to controls

Experimental group	Exp group Means and SD	Control group Means and SD	t
Cardiac	35.76 16.13	26.08 15.14	2.66
Deaf	26.91 11.37	26.50 14.27	.166
Blind	29.62 16.84	29.57 16.28	.013

The findings provide strong support for the hypothesis. The difference between the cardiac group and its control group is not only significant but appears to be substantial. In fact, examination of individual profiles reveals a number of extremely variable profiles in this group. A record is not unusual in which extreme concern is admitted in one area while concern in another area is almost completely denied. This seems to suggest that "special" vulnerability is manifested not only by increased anxiety over a particular area of interpersonal interaction, but also, perhaps more typically, by defensive denial of concern.

Direct comparison of the cardiac group with comparable groups of deaf and blind also renders significant differences on the Profile Scatter Index.

Intra-group findings: intercorrelation of the scales

In examining the data from the point of view of variations within each of the study groups, it may be fruitful first to examine the patterns of intercorrelations of the five scales of the Schedule (Table 3).

Table 3

Intercorrelations of the scores on the five parts of the Schedule of Interpersonal Concerns for "normal" reference group and the three handicapped groups

	Scale	Rejection	Resp	PI	SE	Ind
Normal	Rejection	1.00	.02	.00	.08	.42
	Responsibility	.02	1.00	.25	.34	-.06
	Personal Intrusion	.00	.25	1.00	.47	.22
	Social Enmeshment	.08	.34	.47	1.00	.17
	Independence	.42	-.06	.22	.17	1.00
Blind	Rejection	1.00	.21	.08	-.08	.58
	Responsibility	.21	1.00	.31	.27	.14
	Personal Intrusion	.08	.31	1.00	.69	.19
	Social Enmeshment	-.08	.27	.69	1.00	.28
	Independence	.58	.14	.19	.28	1.00
Cardiac	Rejection	1.00	.27	.07	.20	.19
	Responsibility	.27	1.00	.10	.46	-.03
	Personal Intrusion	.07	.10	1.00	.33	.04
	Social Enmeshment	.20	.46	.33	1.00	.17
	Independence	.19	-.03	.04	.17	1.00
Deaf	Rejection	1.00	.41	.32	.33	.56
	Responsibility	.41	1.00	.50	.39	.18
	Personal Intrusion	.32	.50	1.00	.62	.29
	Social Enmeshment	.33	.39	.62	1.00	.41
	Independence	.56	.18	.29	.41	1.00

By comparison with the reference group, it will be noted that the data obtained from the blind sample shows a slightly higher convergence of the scales of Rejection and Independence, and a substantially higher convergence of the scales of Personal Intrusion with Social Enmeshment. It is interesting that these higher correlations occur between pairs of scales which in the original factor analysis as well as in the reference group are most convergent to begin with. As noted earlier (supra, p. 19) there is certainly an aspect of rejection about any challenge to a person's independence and competence. This common aspect of rejection in these two scales appears intensified in the blind group. Likewise, the scales of Personal Intrusion and Social Enmeshment have in common the activation of interpersonal contact; they are different to the extent that the scale of Personal Intrusion reflects a diadic relationship and a more intensive, intimate one. This distinction apparently weakens when applied to the blind person's view of these aspects of interpersonal interaction. Since the number and variety of social contacts are necessarily reduced for the blind person, it may well be that any contact takes on a more personal, intimate aspect.

What is notable about the pattern of intercorrelations based on the cardiac data is in some ways opposite to what has just been observed about the blind. If anything, there appears to be some increased divergence of these various scales, particularly the scale of Independence from the scale of Rejection. This is in keeping with what has been observed in the previous section (supra, p.36) on the tendency of the cardiac patient to react very selectively to the various aspects of interpersonal interaction. If the dimensions of rejection and independence do have some common aspects for the average person of the general population, the unique sensitivity of the cardiac to the challenge to competence and independence minimizes this communality.

As could be expected from the general elevation of the profiles of the deaf, the intercorrelations for this group reflect an increased convergence of every scale with every other one. One wonders whether this reflects a decreased ability on the part of the deaf to differentiate between the various aspects of interpersonal interaction (as measured by this verbal instrument), or whether it is simply an artifact of the increased general readiness to admit concern (response set). In order to shed some light on this question, intercorrelations were also obtained on deviation scores, computed for the precise purpose of eliminating the influence of the general response set. When the intercorrelation matrix of such ipsatized scores is compared to a similarly obtained matrix for the normal reference group, the correlations are found to be very nearly parallel. This finding appears to favor the explanation of the greater convergence between the various scales as being an artifact of the general response set, rather than reflecting an inability on the part of the deaf to interpret the items in the same way as "normals" do.

Intra-group findings: age, occupational level and interpersonal concerns

Before considering the influence of age and occupational level on the comfort of adjustment by the handicapped in interpersonal interaction, it is well to consider some aspects of the relationship of these two variables with the various indices of the Schedule of Interpersonal Concerns in the "normal" population. Apart from the general desirability of controlling in any study such important variables as age and occupational level, particular attention was paid to these variables in the present study for two reasons: 1. In the earlier development phases of the schedule, it was noted that the scores of college subjects on the Schedule were almost double in general elevation as compared to older subjects; 2. Because the scales reflecting control dimensions (Responsibility, Independence) necessarily included items based on interpersonal relationships at work, it seemed reasonable to assume that the level of work activity would have much to do with special concerns over control relationships.

The total reference group (N=71) was used to examine the relationships of these two variables to the various scores derived from the Schedule. The group was divided into sub-groupsof "old" (40 years and above, N=37, mean age=52) and "young" subjects (39 years and below, N=34, mean age=31). The two sub-groups were then compared on all the indices of the Schedule. Similarly, the group was also divided by occupational level: a "high" group (levels 1-3) and "low" (levels 4-6).

Fortunately for the simplicity of analysis, no relationship of age to general response set level seems to obtain within the range of adulthood years (21+), thus allowing straightforward comparisons of differences on the various parts of the Schedule.

The results of these comparisons yield rather clear cut and definitive findings. All of the differences attributable to the occupational level are well within the likelihood of chance. So are all differences, attributable to age, on the scales of Rejection, Personal Intrusion and Social Enmeshment. On the control dimensions, however, definite differences obtain: the older subjects admit much more concern over responsibility and much less concern over independence. In fact, of all the five scales for the older group the highest relative level is on the Responsibility dimension and the lowest on Independence, with the younger group presenting a group profile of exactly opposite order, i.e. highest concern over independence, lowest over responsibility. The difference on the Responsibility scale is even more striking if one considers the fact that the older subjects are of somewhat higher occupational levels, as can be expected, and higher occupational level by itself tends to reduce concern over imposition of responsibility. The age effect, therefore, is so pronounced as to show clearly in spite of the attenuation by the occupational level variable.

Significant differences between the two age groups were also obtained on the sub-total scores of Over-Activity and Under-Activity, with the younger group more concerned with insufficient activity and the older group with excessive activity. These differences mainly reflect the already discussed differences on Independence and Responsibility scales which are part components of the sub-total scores. The direction of differences on the remaining three scales, however, is consonant with the interpretation of the differences of the sub-total scores as reflecting general preferences of the older group to be less active and the younger more active in interpersonal interaction.

The blind

The blind sample was similarly divided into "old" (40 years and above, N=21, mean age=53) and "young" sub-groups (39 years and below, N=21, mean age=29). On occupational level, the high level group consisted of 19 subjects in levels 1-3, and the low group of 22 subjects in levels 4-6. The "old" and "young" sub-groups happened to be nearly perfectly equivalent on occupational level, thus allowing separate analyses of the main effects of these variables on the Schedule scores of the blind.

The more definitive findings with this group relate to the occupational level variable. The higher level group subjects are unmistakably more concerned over insufficient activity (Over-Activity sub-total). Especially definitive is the higher level subject's concern with being accepted as a competent and independent agent. Other differences on individual scales are much less pronounced.

With respect to the variable of age, and independently of occupational level, it is found that a similar concern with insufficient interpersonal interaction tends to be higher in the younger group. One additional definitive finding is that the older group, by contrast, is much more bothered by the threat of social enmeshment. Thus, much like the normal reference subjects, the young blind tend to seek interaction whereas the older blind tend to prefer to be left alone.

The deaf

The comparison of different age groups on the deaf sample ("old" subgroup 40 years and above; N=23, mean age=47; "young" group 39 years and below, N=33, mean age=32) yielded a significant finding of a difference on the Profile Scatter Index with the younger group more discriminating in reporting their concerns than the older group. Approaching significance is also a trend for the younger group to be generally more freely admitting of concern. Both findings are unique to the deaf group and do not appear to have any parallel in either of the other two groups or in the "normal" reference group. It may be that both the increased response set and the greater differentiation of profile (these indices on the deaf group in themselves are correlated .33) reflect the higher degree of interest and cooperation on the part of the younger group.

With respect to the occupational level, rather surprisingly definitive findings were obtained inspite of the fact that on this variable the deaf sample is a rather homogeneous group. Only 13 subjects could be classified at occupational levels 1-3 as against 43 in levels 4 and 5. In spite of the small sub-group of higher level occupation subjects, highly significant findings emerge showing substantially higher degree of concern over responsibility by the lower level group and substantially less concern over independence. Particularly notable is the first difference: while the higher level subjects approximate the reference group very closely on the Responsibility scale, the lower level group of the deaf express concern over imposition of responsibility to a very high degree.

The cardiac

Since the age of the cardiac group is higher than that of the total reference group or of either one of the two other handicapped groups, a division of "old" and "young" had to be made at a different age level ("old" sub-group 50 years and above; N=21, mean age=61; "young" sub-group 49 years and below, N=17, mean age=42). With respect to occupational level, the subjects were divided as with other groups ("high level" N=22; "low" level N=16). Some interesting findings are revealed by comparison of these sub-groups. It will be recalled that the cardiac group as a whole tends to manifest more concern in the area of independence, perhaps reflecting increased anxiety over adequacy as to competence (cf. supra, p. 30). The intra-group comparison further shows that occupational level is definitely associated with the relative degree of concern over another aspect of control, responsibility, with the lower level sub-group admitting being much more bothered by the prospects of imposed responsibility than the higher level sub-group. In fact, group profiles of these two sub-groups indicate that for the lower level sub-group concern over responsibility exceeds that over any other aspect of interpersonal interaction, with concern over independence "running a poor second." For the higher level sub-group, by contrast, independence is the predominant concern, with concern over responsibility being the lowest of all five.

Division of the cardiac subjects by age renders a significant difference of the older group being definitely and substantially more concerned over excessive activity (Under-Activity sub-total) than the younger group. All of the three component scales of this sub-total show substantial differences in this direction, although apparently because of the small numbers in the sub-groups, they are not individually significant.

In order to explore further the association of occupational level with the specificity of concern in interpersonal interaction, the cardiac subjects were rated on a degree of work disability. The rating was based on the level of their current employment as compared to previous; reported restrictions of activity by orders of physician; forced retirement; and other related information. The rating of work disability turned out to be substantially and negatively correlated to occupational level: the lower the level, the more frequent was the work career impairment. Even more than occupational level, however, the work disability rating was found to be predictive of the degree of concern over imposition of responsibility. Subjects receiving higher work disability ratings were very significantly and substantially more concerned in this area, than those with ratings of low degree of impairment.

No significant differences on any of the indices of the Schedule were found by comparing cardiac patients who were hospitalized vs. clinic patients, those with coronary occulsion diagnosis vs. others, and those who had recent cardiac crisis as against those with earlier history.

Differences on individual items of the Schedule

Perhaps the most compelling impression from examining the results of individual item comparisons from group to group is the abscence of significant differences. For example, when the blind sample is compared to its "normal" controls, there are only two items on which the proportions of "yes" to "no" responses differ between the two groups, and only at the $p < .05$ level, so that they are quite likely to have occurred by chance. The comparison of the blind group to its control group renders four significant differences at the .05 level and one at .01 level; such numbers of findings at these levels of significance are well within the limits of what one might expect by chance to occur. Even these differences are further attenuated when one adjusts the proportion for the general response set (cf. supra, p. 29).

While the absence of significant differences in proportions on individual items may at first seem somewhat disappointing in-as-much as such differences, when found, often provide leads for interpretations of more general significance, the "null" result, looked at from another point of view, was indeed sought from the very start of the project in that attempt was made to build a schedule containing no items to which the response would depend directly and

Table 4

Items on which the deaf subjects differ from their controls significantly ($p < .01$) in proportion of "yes" responses

Item	Percentage of Ss responding "yes"	
	Deaf	"Normal"
5. When someone expects you to take on more and more responsibility	55	28
13. A person who holds your arm while talking to you	55	82
23. A person who puts his arm around your shoulder while telling you something	52	70
26. When someone you have known for a long time remains distant with you	71	39
29. People who expect you to visit them often	80	43
30. Having to make decisions for other people	63	32
31. If a friend whom you offer to help in a personal difficulty tells you that he has already asked somebody else to help him out	46	16
38. Someone who shakes your hand and continues to hold your arm while conversing	57	84
43. When a person confides to you his innermost feelings	45	16
47. When you are directed to change your way of doing something	68	39
53. When people ask you to do something difficult	54	20

necessarily on the surface attributes of the physical handicap. Where the differences are obtained between the groups on the scale scores, therefore, they are cumulative and non-specific and therefore perhaps more meaningful in terms of dimensions underlying the individual scales (rejection, responsibility, etc.) than would be the case if the differences between the two groups on a particular score could be traced to substantial differences in the responses to a few specific items.

The exceptional group, in this context, is the deaf sample. The comparison of this sample with its controls renders a large number of highly significant differences in proportions of responses. Table 4 provides a list of items on which substantial and significant differences were found.

From this table it appears that especially vulnerable to a specific interpretation by the deaf are items involving physical contact. This may be because of the necessity of physical contact as a means of drawing attention of someone before communication can take place. Because of these specific significances to the deaf interpretation of the scales of the Schedule in relation to them presents particular difficulties.

The comparison of the handicapped groups to one another on individual items rendered no results which are in any way novel or additional to those obtained from the comparison of each group with its corresponding control group.

Chapter VI

GENERAL DISCUSSION OF RESULTS

The first concern of this investigation was whether a relationship exists between the nature of a particular physical handicap and the psychological meanings of the disability as sources of interpersonal concern. It was predicted that the sensory-deprived group (blind and deaf) would be more concerned with the interpersonal need for inclusion than both normal controls and cardiacs. This need for inclusion is defined at the feeling level as the need to establish and maintain mutual interest with other people. In relation to the self-concept the need for inclusion is the need to feel the self is significant and worthwhile. At the behavior level, the handicapping effect of disability is seen in the attitude of the disabled person that others are not interested in him, and he consequently acts toward others either in an under-social or over-social fashion.

A second prediction was that the cardiac group would be more concerned with the interpersonal need for control than both the non-handicapped controls and the sensory-deprived group. The need for control is defined as the need to establish and maintain a feeling of mutual respect for the competence and responsibleness of others. At the level of the self-concept, the need for control is the need to feel that one is a competent, responsible person. The behavior of individuals who are concerned with control may vary on a behavior dimension ranging from attempts to always control the behavior of others to abdicating from all responsibility for the control of any behavior of others, from being completely submissive to rejecting any control by others.

In general, the results of the study provide support for the overall hypothesis of specificity in the nature of concern over interpersonal interaction among the handicapped groups studied. The most global of the results obtained by comparing group profiles of each handicapped sample to the corresponding control sample, indicate that the highest scores of the blind group are on the Rejection scale, both by comparison to the scores on the other four parts of the Schedule and by difference from the control group. This finding is meaningful in that it provides collaboration for much prévious research and theorizing that the blind are significantly more sensitive to those aspects of interpersonal interaction which bear on their sense of social significance. The finding is also congruent with Wright's (1960) concept of "inferior status position", Barker's (1953) concept of "underprivileged position", and Lewin's (1935) concept of "marginality". The major psychological restriction of blindness is seen as having its source in socially derogatory attitudes. Cowen et al. (1956) found that negative attitudes towards blindness correlated significantly with anti-minority, anti-Negro, and pro-authoritorian attitudes. Cowen (Lofquist, 1960) notes the similarity of the conflicting roles of minority groups, such as the light skinned Negro trying to "pass", to the conflicting roles of the disabled person. An additional finding indicated that the blind tended to be less concerned with social enmeshment than the deaf. A possible interpretation suggested is that the blind, more so than the deaf, depend on the initiation of contact by others, and are perhaps forced to accept the passive role in social interaction. These dynamics are very much the same as in studies of prejudice where the individual may seek substitute gratifications when thwarted in his achievement of a desired goal by "identifying with the agressor" or in the case of disability, with the non-handicapped majority. The finding that the blind are essentially concerned with social rejection but less so with social enmeshment is in keeping with Bruner and Postman's (1948) "principle of vigilence", which refers to the tendency of the person to respond to threatening material with increased alertness in certain circumstances.

Findings with the deaf are obscured by the response set to admit more freely concern over any aspect of interpersonal interaction. After adjustment for this significant difference in the response set levels from the other groups, a significant finding emerges which was not anticipated, that the deaf are relatively less concerned about personal intrusion as compared to the other aspects of interpersonal interaction. This finding appears to be relevant to Myklebust's (1960) consideration that there is no more important factor than isolation in the emotional adjustment of the hearing impaired. When the normal person is deprived of sensory stimulation and removed from other people, he becomes disturbed and hallucinated. The deaf individual may well be least concerned about intrusion into his personal privacy by others because any interpersonal interaction provides him with an opportunity to monitor his own feelings and ideas. Any interpersonal contact, be it group or dyadic, provides an opportunity for maintaining social-emotional stability in comparing one's thinking and feeling with others. In the group under study, deafness was sustained in very early life, and thus for this group the monitoring of their feelings, attitudes and ideas was more difficult than when compared with a group where deafness was sustained in later life. Research on the families of deaf children indicates that is it extremely difficult to keep the hearing impaired child informed of daily occurrences and circumstances. The finding thus supports the assumption that deafness alters experience in that the deaf are less concerned with personal intrusion because of their need to avoid detachment and isolation and to maintain a firmer hold on reality.

The highest score of the cardiac group, both relative to scores on the other four parts of the Schedule and by differences from the control group, is on the scale of Independence which corresponds to Schutz's dimension of overcontrol. The cardiac is particularly concerned with those aspects of interpersonal interaction which bring into focus his need to establish and maintain a feeling of mutual respect for the competence of others. At the level of self-concept, he appears to be primarily concerned with a need to feel that he is competent and responsible. His behavior generally involves dominance, coercion, influence, and high achievement.

For the cardiac group in particular it also seemed fruitful to ask whether or not cardiovascular disease would be found to accentuate the individual's concern about those aspects of interpersonal interaction to which he had been particularly vulnerable prior to incurring the handicap. This, in effect, was the second concern of the study i.e. whether the psychological meanings of a particular physical handicap as sources of interpersonal concern vary in accordance with the individual's feelings of inadequacy which pre-exist the onset of the disability. The findings provide strong support for the hypothesis that the cardiac experiences increased anxiety over particular areas of interpersonal concern. Both the cardiac's particularization of concerns, relating to his particular strengths and weaknesses prior to the disability, and his defensive denial of concern provides collaboration for a number of previous studies on cardiovascular disorders. Shworles (1959) studied material representing an extended study of patients suffering acute myocardial infarction and concluded that there were three basic reactions represented by denial, reactive depression, and what he called "inner work", which can be described as psychological reorganization. Some of the more carefully designed studies, such as that of Weiss et al. (1957), found that the most significant reaction among patients suffering from coronary occlusion was that of denial in which the patient behaved as if he were not seriously ill. Some support is also found for those studies that document the excessive striving of the "typical coronary" patient which is also reinforced by key figures in his life. Dunbar (1954), for example, defines the "coronary personality" as consisting of "compulsive striving, hard work, self-discipline and a greater need to get to the top." Other researchers emphasize the psychodynamic importance of the cardiac's early conflicts with authority, usually with a feared or angry parent, and indicate that the characteristic defense mechanisms were repression and identification, which serve their purpose inadequately because the patient continues to re-experience his old conflict with authority over and over again as he unconsciously recreated in new forms the original situation of competition.

The concept of "coping vs. succumbing", as delineated by Wright (1960) and Dembo et al. (1952), seems relevant to the findings. The cardiac in this context appears as more susceptible to loss of self-respect, autonomy, self-trust, and self-control. The characteristic response to these feelings is to deny the existence of the disability, and to reject any control by others. The cardiac's particular concern over loss of independence and over challenge to his competence can also be considered in the context of what Meyerson describes as "new psychological situations." The stereotype of an individual who has recently suffered a cardiac infarction is that he is a man under sentence of death and whose independence and competence is completely challenged. Because of the immensity of the threat, the coping or the succumbing to the disability may involve the extremes of complete denial on the one hand or complete submission and invalidism on the other. The concept of "spread" seems also appropriate in that the effects of a cardiac infarction are seen as spreading beyond the confines of the cardiovasuclar disorder into interpersonal areas of control.

The third major question of the study was whether changes in the handicapped individual's psychological field with the passing from one life stage to another were associated with changes in the quality of the psychological meanings of his disability as sources of interpersonal concern. The framework of this question is a developmental one. Through growth and learning, the behavioral repertoire of the non-handicapped individual increases and changes, becoming more complex and also more differentiated. The developing individual becomes more able to respond to environmental demands in an independent and effective way, and also a more effective repertoire of behavior is expected of the individual. Behavior which is considered appropriate and adequate at one point in the life span may be considered inappropriate at another. The process of socialization means that the individual must become more effective in doing what society requires. These required behaviors vary within any given society. Differentiation of the behavior which is expected of the individual occurs in relation to the differentiated social roles or groupings based on such variables as age, social status, sex, and physical handicap within the hierarchy of the total group.

Through the expectations of society, what must be mastered at a particular point in time depends on the life stage of the individual. Various writers, such as Charlotte Buehler (1933), Miller and Fromm (1951), Super (1957), Havighurst (1953), and others have attempted to describe this developmental process through the medium of life stages. Buehler, for example, on the basis of work done in Austria and published in 1933, has described five life stages: growth, exploration, establishment, maintenance, and decline. She has also indicated the activities and problems most characteristic of each of these life stages. Ginzberg and associates (1951) have established life stages based on tracing the process of occupational choice in terms of the characteristics of choice or the presumed determinants of choice over the life span. Anne Roe (1956), using Maslow's (1954) system of needs, has theorized on the changing hierarchies of human needs from one life stage to another.

It is clear that such handicapped groups as the sensory deprived (deaf and blind) would have difficulty in meeting the "expectancies for action", and the developmental demands of society. It is also clear that failure to meet such demands would lead to unhappiness, and failure with later tasks. Furthemore, this failure would clearly involve the disapproval of society and unhappiness for the individual. The psychological stresses peculiar to the different life stages and occupational levels (Super 1957; Hahn 1963) may well be related to the interpersonal concerns of the disability groups under study. For the deaf and the blind particularly, what are accessible and inaccessible activities is likely to be less clearly defined for the younger groups involved in social and vocational exploration. Similar difficulties may well exist for the sensory deprived at later life stages for they also become involved in the responsibilities of higher level occupations where the challenge is greater to explore communalities of behavior with the non-handicapped majority who more successfully meet the expectations of society. The young in the exploratory life stages and the professional level individual in the periods of maintenance and decline who is handicapped by impaired hearing or vision is more likely to find himself in new and threatening interpersonal situations in which the directions are unknown and for which he has not been prepared through his lack of success with earlier developmental tasks. Pope (1928), Levine (1948), McAndrew (1948) have documented the fact that the deaf in particular, through developmental failures in growth and learning, have very limited behavioral repertories, and relatively undifferentiated life spaces. It is conceivable that both age and occupational level, therefore, in interaction with movement from one life stage to another, are two variables which significantly affect the quality of interpersonal concerns of the handicapped groups under study.

By comparing the handicapped groups and normal controls on the indices of the Schedule of Interpersonal Concerns, it was found that the blind engaged in higher level occupations are unmistakably more concerned with excessive activity. They are also more concerned with being accepted as competent and as independent. The blind engaged at lower level tasks are clearly less concerned in these areas. With respect to age, considered independently of occupational level, the younger blind were found to be more concerned with insufficient interpersonal interaction. On the other hand older blind are much more bothered by the threat of being enmeshed socially. In other words, the younger blind tend to seek out interpersonal interaction whereas the older blind prefer to be left alone. Findings with the deaf show that the lower occupational level group reveal a substantially higher degree of concern over responsibility than the higher occupational level group, and substantially less concern over independence.

It is clear from these results that the nature of interpersonal concerns at different stages of development correspond to both the changes in the individual and in the changing demands of society. Perhaps the findings of this study are related to Meyerson's (1955) concept of "new psychological situations" occurring in the process of growth and development for the blind and deaf. He indicates that for the disabled person new situations arise because of his stereotyped value to others in various interpersonal settings. Myklebust (1960) also has noted that it is more difficult to develop strong feelings of identification when one is shut off from the many sounds and sights which enhance interpersonal relationships. Perhaps long experience with deafness or blindness and with the anxiety engendered in new situations has its effect on the older members of both the blind and deaf group. The increasing social withdrawal of the older blind, particularly those with lower occupational levels, may well be related to the cumulative impact of successive failures to meet these developmental demands of society with consequent feelings of failure and increased isolation. The increasing process of isolation and perhaps self-devaluation also is related to occupational level. Members of the blind sample engaged in higher occupational levels are significantly more concerned with insufficient interpersonal activity, when compared with the blind in lower level occupations. Furthermore, this higher level occupational group appears to be less concerned with under-activity in the interpersonal area.

The Lewinian concept of "marginality" also contributes some understanding to the findings particularly in relation to those based on occupational differences. In light of this concept, the blind person of higher occupational status is under more pressure to be normal, and to face the expectancies for action on an equal level with the non-handicapped majority.

Findings on the cardiac group are of necessity qualitatively different since the mean age of the cardiac group is higher than that of the total reference group or for either one of the two other handicapped groups. Also the cardiac group as a whole tends to manifest more concern in the area of independence which perhaps reflects increased anxiety over adequacy as to competence. While the cardiacs in general are primarily concerned with the interpersonal need for control, that is the need to feel that they are competent and responsible, occupational level differences appear to illustrate both ends of the continuum of response to threats to one's competence. The higher level cardiac appears to be concerned in the area of over-control with denial of the limitations of his cardiovascular disorder. The general behavioral tendency of this group is to reject any control by others. On the same dimension and in a bi-polar fashion, lower occupational level cardiacs appear to be much more concerned with accepting any responsibility. Their role is more that of the abdicrat rather than more autocratic role of the higher level cardiacs. Analogous to this behavioral dimension is the greater concern of older cardiacs with over-activity as opposed to the concern of the younger group with insufficient interpersonal activity. Both findings parallel the "coping vs. succumbing" dimension described by Wright (1960) and others. For lower level and older cardiac individuals the cardiovascular disease takes on the quality of a block which impedes free movement towards legitimate vocational and social goals.

Whereas all individuals in the cardiac group are pre-eminently susceptible to feelings of loss of autonomy and self-control, it is clear that differences in age and occupational level determine very much the mode of response to the same proximal source of anxiety.

Implications of the Study

The findings and the approach of the study suggest certain areas of interpersonal interaction that merit further investigation.

First, it would be of value to explore the major interpersonal concerns of the physically handicapped involved in "overlapping psychological roles." The concepts of "marginality" and "overlapping psychological roles" contribute considerable understanding to the interpersonal stress experienced by the disabled person who finds himself subject to the behavioral mores of the disabled group, and conflictingly, under pressure to be "normal" and to be just like the non-handicapped majority. In this study the findings with the deaf are obscured by the response set to admit more freely concern over any aspect of interpersonal interaction. They were however, relatively less concerned about personal intrusion as compared to the other aspects of interpersonal interaction. Findings, however, must be interpreted in light of the fact that all subjects were drawn from one job situation in the U. S. Government Printing Office, Washington, D. C. where, in a very real sense, they have created a sub-culture of the deaf and there is little if any interaction with the hearing world. Likewise in their social life, activities are essentially confined to clubs for the deaf and again there is very little interaction with the hearing majority.

It would appear to be important to study two groups of the deaf, one group, as in this study, whose activities both vocational and social are limited to the deaf population, and another group whose vocational activities and social activities bring them into regular contact with the non-handicapped majority. It is considered that this latter group may well reveal interpersonal concerns of a different quality and intensity because of their membership not only in the sub-culture of the deaf but at the same time in the sub-culture of the hearing. The outcomes of such an investigation may be of direct value in the rehabilitation process particularly in the occupational placement of the deaf.

Another aspect of this area of investigation would be to compare the deaf and the hard-of-hearing on these dimensions of interpersonal concern. The hard-of-hearing are much more likely to find themselves subject to overlapping psychological situations than are the deaf. The deaf can hardly conceal the fact of their deafness so consequently they are less likely to attempt to take on occupational and social roles in the hearing world. However, the hard-of-hearing can with likelihood of success take on the role of the hearing individual. Interpersonal situations are thus more likely to be ambiguous for the hard-of-hearing because for them the choice of taking on the role of a hearing person is a much more feasible possibility. The essential hypothesis of this study would be that the hard-of-hearing would demonstrate greater intensity of interpersonal concern than would the deaf. It should be noted, however, that when institutionalized deaf and hard-of-hearing were compared in an independent study on the Schedule of Interpersonal Concerns, no significant differences were found. Thus it is important that, in any test of the proposed hypothesis, the samples be drawn from interpersonal situations, vocational and social, where the subjects are daily in close interaction with the hearing majority. Secondly, it would be fruitful to explore the relationship between the dimensions of interpersonal concern and both excessive dependency and, conversely, the denial of "justifiable dependency." It has been noted that dependency is often perceived as central to the whole field of disability. Cowen (Lofquist 1960, p. 131) notes that: "We need to know much more about the nature of healthy and pathological dependency and factors which produce exaggerated dependency, or denial of 'justifiable dependency'". From the findings of this study it is clear that differences in age and occupational level determine very much the mode of response to situations demanding a degree of independence and competence. Both the deaf and the blind engaged in lower level occupations were found to be less concerned with being independent and competent. Also it was found that the blind subjects in later years were more concerned with accepting social pressures. Cardiacs in higher level occupations appeared to deny the limitations imposed by the illness whereas those engaged in lower level occupations appeared to be concerned with taking on responsibility. Perhaps the central concept underlying these findings is that of dependency.

A suggested area of investigation would be to define two groups in the rehabilitation process, one of which could be judged to have profited from rehabilitation and another group which had largely failed. Both groups would be compared on the dimensions of interpersonal concern, having been matched on all relevant variables, particularly on severity of physical handicap.

A third area meriting investigation is the extent to which the nature of interpersonal concerns changes through the various life stages for any given disability group. Results of the present study indicate that the "old" and "young" differ on the quality and intensity of interpersonal concern. The proposed research would involve a comparison of the modes of response of various groups of the handicapped at several critical points in the life stages to discover the extent to which interpersonal concerns change over the life span of psycho-social development. Results of the study may cast some light on the changing nature of interpersonal concerns at different life stages which correspond to both changes in the individual who is handicapped and to changes in the demands of society.

Because the study has met with some success in delineating the interpersonal concerns of certain groups of the handicapped, the instrument of the study may be of value in exploring the research areas which have been delineated above. The definite limitations of the study with the deaf have been noted, but the methods and approach of the study worked reasonably well with the blind and cardiac groups. To the extent that patterns of interpersonal concern were established for the disability groups in this study, patterns might also be established in other areas of physical handicap.

It is conceivable that with the accumulation of findings from the studies which have been suggested, the Schedule of Interpersonal Concerns may also prove to have value in individual use. For example, in rehabilitation counseling and in retraining, more specific knowledge of individual concerns in human relationships, may help to discover more about the alternative gratifications which are available in the life of the handicapped individual, what interpersonal needs are primarily frustrated, and what substitute gratifications may be provided.

SUMMARY

The purpose of the study was to contribute to the understanding of the socio-psychological adjustment of the physically handicapped by examining, for several groups of the physically handicapped, the meanings of the disability as sources of interpersonal concerns. While there is undoubtedly a great deal of variation from individual to individual as to the nature of the psychological impact of a disability, the main thesis of the study was that, among the various kinds of handicap, there are empirically demonstrable differences in the extent to which particular areas of interpersonal interaction are affected.

The study was carried out in two stages. The first, the dimensions of interpersonal interaction were delineated, and an instrument prepared for their measurement. Schutz's (1958) three-dimensional theory of interpersonal behavior was used as the point of departure. Using the theory as a guide, a large universe of statements was collected descriptive of discrete and measurable interpersonal behaviors. This universe of items, after refinement on the basis of pilot pre-testing, was then administered in the form of an inventory to a sample of adult males with instructions for them to indicate which of the listed interpersonal behaviors caused most concern. The data obtained was submitted to several procedures of factor analysis, with six factors of interpersonal concerns emerging as a final result: 1. Rejection; 2. Responsibility; 3. Personal Intrusion; 4. Social Enmeshment; 5. Independence; 6. Personal Isolation. On the basis of some later findings and technical considerations, the factor of Personal Isolation was not used in the study. For the remaining five factors, reliable scales were constructed in the form of the Schedule of Interpersonal Concerns.

The second phase of the study consisted of the application of the developed instrument to the three groups of the physically handicapped: deaf, blind, and cardiac. These groups were selected on the basis of theoretical reasons: the deaf and blind, as sensory *isolation* groups, were predicted to show greatest concern over the aspect of *rejection* in interpersonal relationships; the cardiac group, in so far as the recurrence of this handicap represents some loss of certain *competencies* in daily activities, was predicted to show greatest concern over *independence*. Control samples for each of the handicapped groups were established matching the handicapped in sex, race, age and occupational level.

The comparison of the three handicapped groups with one another and with the corresponding control samples yielded the following major findings:

1. The blind, as expected, showed most concern over the prospect of being rejected, both as contrasted with the degree of their concern over the other aspects of interpersonal interaction and by comparison to the control group.

2. The cardiacs, as a group, showed most concern over the prospect of losing control and independence. This result had also been predicted.

3. With the instrument used, the deaf tended to admit more concern over *any* aspect of interpersonal interaction than either of the other two handicapped groups. This general elevation of admitted concerns may reflect the limitation of the instrument, a verbal tool, in the use with the deaf, or

some artifact deriving from the special circumstances of data gathering with this group. Barring further evidence, it seems untenable that the deaf should in fact be more concerned over interpersonal relations than either of the other two groups.

4. The cardiac subjects, both compared to the control subjects and the deaf and blind, individually show the greatest differentiation of the "profiles" of interpersonal concerns, with many individuals showing marked sensitivity in some areas of human interchange together with marked denial of concern in other areas.

5. Among the blind, subjects of higher occupational level as compared to lower, and younger subjects as compared to older, expressed more concern over insufficient interpersonal activity. Assertion of independence seems to be of particular concern to the higher-level blind.

6. Among the lower occupational level deaf subjects, as compared to other deaf, a high degree of concern over prospects of imposed responsibility is manifested.

7. For the cardiac group, the occupational level variable appears to be of prime importance in determining the nature of concern over competence; the higher-level cardiacs tend to worry over maintaining independence and tend to deny any concern over responsibility, with the lower level cardiacs showing exactly the opposite pattern.

Consideration of these results in relation to extant literature on the psychology of the physically handicapped suggests that it may be fruitful to explore further the psychological meanings of the physical handicap; 1. at various life stages and critical periods of development; 2. in the light of "justifiable" vs. excessive dependency and 3. in relation to the degree of subjects' identification with a sub-culture of the handicapped as contrasted to regular contact with the non-handicapped majority. The instrument developed for this study--Schedule of Interpersonal Concerns--may prove useful in such investigations.

Appendix I

Items of the provisionary form of the Schedule of Interpersonal Concerns used for factor analysis (cf. pp.16 ff.)

R - items in first (red) analysis
B - " " 2nd (blue) "
Y - " " 3rd (yellow) "
C - items in the collated analysis

B 1. Neighbors where people like to keep to themselves

Y 2. Some one of casual acquaintance who inquires about your past: your childhood, etc.

RC 3. When someone expects you to take on more and more responsibility

R 4. People who, when they visit you, always stay a long time

B 5. To learn from others about personal troubles of a friend which he hasn't confided in you

R 6. If you have to conform strictly to rules and regulations

7. People who have a lot of parties but never invite their immediate neighbors

8. When a friend says he would love to do what you do in your leisure time

B 9. When you are supposed to be the expert, the person with the answers

R 10. People who take up your time by chatting about trivial things

Y 11. A friend who offers to bring along a buddy of his for you to meet when you expected him to come alone

BC 12. If you are not permitted to set your own schedule and plans for work

Y 13. When a group is so large that you are just one of the crowd

RC 14. A person who continues to share personal confidences without you encouraging him to do so

BC 15. When there is no one senior to you on a job to be done whom you could consult

16. If people keep asking how you are when you just have a cold

Y 17. A friend who never talks with you about his family

Y 18. When people tell you what to do

R 19. If you are not asked to participate actively in some group

R 20. If someone ways: "lets get to know each other"

Y 21. When you have to direct activities of other people or give orders

B 22. People around you who always seem eager to socialize

B 23. A person who is friendly and social but impersonal

RC 24. If someone questions your ability to do something

R 25. People who don't seem to be enthusiastic about meeting a new person

B 26. To have a total stranger with whom you are talking become interested in your problems

YC 27. When people ask you to do something difficult

B 28. If some people just drop by your home without being invited

B 29. A close friend who gets enthusiastic about any new person he meets

BC 30. If you can't be your own boss

B 31. Activities in which you can be only a passive observer

YC 32. A person who confides secrets to you that he says he hasn't told anybody else

R 33. When you have to give instructions to or to teach someone else

BC 34. When you are invited somewhere on an evening for which you have your own plans

BC 35. If a friend never asks you for a personal favor

B 36. If your grammar is corrected by others

BC 37. A formal gathering where it is hard to get to know new people

Y 38. A person who holds your arm while talking to you

Y 39. Having to take over someone else's duties without much advance notice

Y 40. People who feel that just because they are neighbors, you should be friends

R 41. When somebody close (e.g. husband, wife, sister, brother, child) seems to be withholding confidences from you

R 42. When you have to say "I don't know"

Y 43. A new neighbor who puts up a fence right away

R 44. A woman who calls you "dear" or "honey" or such

BC 45. To be in a position of final authority

BC 46. People who make it difficult for you to just stay to yourself

R 47. That people might not care for you as much if you were injured or fell ill

R 48. When someone expects you to do a job in his way

RC 49. People who say "you must drop in sometime" but never tell you when

YC 50. If someone tells you: "I'm lucky to have a friend such as you"

B 51. If you have to take on responsibility for other people's money

Y 52. If you find yourself having to carry on small talk at a party

R 53. When someone you have known for a long time still remains distant with you

R 54. When you have nothing to say about how a job should be done

RC 55. People who are "all work and no play"

B 56. When another person starts "baring his soul" to you in private conversation

57. To have other people working under your direction

R 58. When you are urged to join some group activity (choir, club, etc.)

BC 59. If someone you know well walks past you without greeting you in some way

Y 60. If you are not given opportunity to use your own imagination and initiative in a task

Y 61. A group of people so busy with whatever they are doing that they don't notice you when you join them

R 62. Someone at work who asks personal questions of you

YC 63. Having to make decisions for other people

Y 64. If people expect you to participate actively when in a group

B 65. When a good friend introduces you to a group of his acquaintances without indicating that you are a friend of his

B 66. When your way of doing a job is questioned

YC 67. When the weekend comes and there is no social activity to attend

R 68. A person who puts his arm around your shoulder while telling you something

B 69. The thought of having to develop rules and procedures for others to follow

RC 70. People who expect you to visit them often

YC 71. An acquaintance who doesn't act enthusiastic and elated upon seeing you again after a long time

YC 72. If you are not free to do a job in your own way

Y 73. When a party to which you were looking forward is called off

BC 74. When someone says: "You are the only person I can tell this to"

RC 75. The thought of supervising a lot of people in important work

YC 76. People who make it difficult to leave if you pay them a brief visit

R 77. A friend who always has some new people for you to meet when he invites you to his home

B 78. People who do not follow your instructions to the letter

Y 79. In a waiting room full of people where no one seems to be interested in starting up a conversation

Y 80. A person who gets intimate and familiar quickly

Y 81. When people leave it up to you to decide what a group should do (what movie to see, where to go, etc.)

82. People who assume you will attend their party whenever they have one

R 83. An acquaintance who seems to have nothing to converse about unless there is a large group present

RC 84. When your advice or counsel is not accepted

B 85. When you are not invited to a party to which your friends are going

BC 86. Someone who shakes hands and continues to hold your hand while conversing

R 87. When you are put in charge of a project of activity which someone else could direct better

Y 88. People who are interested in turning even a business meeting into a social affair afterwards

RC 89. If a friend whom you offer to help in a personal difficulty tells you that he has already asked somebody else to help him out

Y 90. When you show a person how to do something and someone else gives the same person different instructions

RC 91. If your neighbors obviously do not include you as one of their friends

Y 92. When a person, whom you don't know very well, goes out of his way to do you a personal favor

B 93. When you are asked to take over someone else's duties or work

YC 94. If you get caught up in a lot of social activities to a greater degree than you had originally intended

Y 95. When someone plays hard to get to know

B 96. When someone does a task differently than you suggest

R 97. If the conversation in a group stays on a topic foreign to you

B 98. A person who frequently uses words of endearment and affection

Y 99. When no one wants to share the responsibility with you on a decision to be made

BC 100. That having to be social takes up your time

Y 101. When someone you like very much always seems too busy to take time to be with you

YC 102. When some job you have started is turned over to someone else

B 103. If you don't qualify for membership to some club or group

B 104. If someone says to you: "You are the only friend I have"

105. To be the one in charge

R 106. People who insist on having an office party every year

107. When you find out that a person who has confided something to you has shared this confidence with many other people

108. When a job is assigned to somebody who can't do it as well as you

BC 109. If no one fills you in when you join a group of friends in the middle of a conversation

RC 110. When a person confides to you his innermost feelings

R 111. When you are told "it all depends on you"

RC 112. People who expect you to socialize with them just because you work with them.

Y 113. A friend who never writes or calls when he moves away

YC 114. Whenever people act as if you need their help and support

115. If you have had no people visit your home for a week or more

116. If someone refers to you as the person he loves most to be with

R 117. When no one seems to want to give you advice on something

B 118. When you can't have lunch on your own because others expect you to join them

119. A friend who prefers to talk about things in general rather than personal matters

120. When someone suggests how you could do something better or quicker

Appendix II

Items of the final form of the Schedule of Interpersonal Concerns, grouped into the five scales

Rejection

1. If someone you know well walks past you without greeting you in some way

6. When a party to which you were looking forward is called off

11. When you are not invited to a party to which your friends are going

16. When someone plays hard to get to know

21. When someone you like very much always seems too busy to take time to be with you

26. When someone you have known for a long time still remains distant with you

31. If a friend whom you offer to help in a personal difficulty tells you that he has already asked somebody else to help him out

36. A group of people so busy with whatever they are doing that they don't notice you when you join them

41. An acquaintance who doesn't act enthusiastic and elated upon seeing you again after a long time

46. If your neighbors obviously do not include you as one of their friends

51. If no one fills you in when you join a group of friends in the middle of a conversation

54. When you find your fellow workers have left for lunch without you

57. When you share good news with some people and nobody asks you more about it

59. When you return from a trip and nobody asks you about it

Responsibility

5. When someone expects you to take on more and more responsibility

10. When there is no one senior to you on a job to be done whom you could consult

15. When you have to direct activities of other people or give orders

20. To be in a position of final authority

Responsibility continued

25. To have other people working under your direction

30. Having to make decisions for other people

35. The thought of having to develop rules and procedures for others to follow

40. When you are appointed to head up a committee

45. The thought of supervising a lot of people in important work

50. To be the one in charge

53. When people ask you to do something difficult

56. When people depend on you to make the final judgment

Personal Intrusion

3. To have a total stranger with whom you are talking become interested in your problems

8. A person who confides secrets to you that he says he hasn't told anybody else

13. A person who holds your arm while talking to you

18. When another person starts "baring his soul" to you in private conversation

23. A person puts his arm around your shoulder while telling you something

28. When someone says: "You are the only person I can tell this to."

33. People who make it difficult to leave if you pay them a brief visit

38. Someone who shakes hands and continues to hold your hand while conversing

43. When a person confides to you his innermost feelings

48. If someone refers to you as the person he loves most to be with

52. A person who says he values your opinion more than anybody else's

55. A friend who says: "You are the only one who understands me."

58. When someone says: "let's keep this between us" before he tells you something

Social Enmeshment

4. People who insist on having an office party every year

9. People who feel that just because they are neighbors, you should be friends

14. People who make it difficult for you to stay to yourself

19. When you are urged to join some group activity (choir, club, etc.)

24. If people expect you to participate actively when in a group

29. People who expect you to visit them often

34. If you get caught up in a lot of social activities to a greater degree than you had originally intended

39. That having to be social takes up your time

44. People who expect you to socialize with them just because you work with them

49. When you can't have lunch on your own because others expect you to join them

Independence

2. If you are not permitted to set your own schedule

7. If someone questions your ability to do something

12. If you can't be your own boss

17. When you have nothing to say about how a job should be done

22. When your way of doing a job is questioned

27. If you are not free to do a job in your own way

32. When your advice or counsel is not accepted

37. When someone suggests how you could do something better or quicker

42. When someone questions your judgment

47. When you are directed to change your way of doing something

Appendix III

Instructions for completion of the Schedule of Interpersonal Concerns

Since we are all social creatures, whenever we feel badly in some way, it usually has something to do with how others act towards us. The purpose of this study is to find out what behaviors of other people make you have unpleasant feelings.

The items on the questionnaire are a list of behaviors of other people which may or may not bother you. Following each item there is a place for you to indicate whether the item does or does not bother you, and if it does bother you to what extent.

For example:

Does this bother you?

A person who swears a lot	NO	YES	1	a little
			2	fairly much
			3	extremely

You would first circle "NO" if the item does not bother you, and "YES" if it does. If you circle YES, circle also "1", "2", or "3" to indicate how strongly you feel.

Do not spend too much time on any one item - your first impression is most likely to reflect most accurately how you feel.

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